APA-TECH 73

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Table of Contents

Cover 1

Table of Contents 3

Transporter Topics 5

Crumbcrunchers, Inc. 13

At the Last Possible Second... 15

Notes from the Vadose Zone 25

Untitled 41

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APA Policies:

- Minac (Minimum level of activities required) is two somethings per year.
- Issues will be mailed the first week of even-numbered months, so contributions must reach me by the first day of said even-numbered months. Things which reach me late will be held until the next scheduled mailing.
- The next deadline is August 1st, 1991.
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TRANSPORTER
TOPICS

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Number 62

Well, this is something I thought I would never do again. I hope we can keep APA-Tech going this way.

Forerunner

Looks like I'm not as crazy as people thought. Advanced Aircraft, Inc., has developed and is ready to market a homebuilt aircraft, the BD-10J, which will reach Mach 1.4. I heard about this after I started work on the Forerunner. Their design is rather conservative, using mostly metal parts and a turbojet engine which has been on the market for some years. They are also selling completed jets as general aviation aircraft, which means that they had to spend the time and money to get them certified by the FAA, so my price estimates seem reasonable.

Technically, the Forerunner is looking more and more feasible. If a Japanese researcher is correct, the top speed of the Forerunner III will be Mach 7 to 8.

Recent Events

Brief review of 1990: During this year I replaced my water heater, computer, lawnmower, three fillings (two at once, and another later), my waterbed mattress, the blade on the new lawnmower, and my car. The last was particularly painful. The front end of my '89 Mustang was realigned by an '85 Oldsmobile. About two feet to the left, it was realigned! The other driver and I both claimed to have the green light, and there were no witnesses or skid marks, so no charges were filed and each driver's insurance company payed for their customer's car. However, the other driver also told the police officer that she was hurrying to her brother's place to watch a TV show, and now she was going to be late! I was driving from the Saturday afternoon gaming session to get supper, at the Long John Silvers just three blocks away. I had only travelled half a block, and was only doing about thirty, when this bulgemobile came through the intersection doing about forty on a residential cross street. (I have worked on the road quite a bit in my job(s) for the

↖subtract 1 from this & all subsequent page numbers.

Highway Department, and have a good feel for how fast vehicles are travelling.) No one was hurt (physically) since we were both wearing seat belts. I screamed a lot, later.

I had two major problems associated with getting a new car. The insurance only paid the book value of my old car, which meant that I had to borrow money to pay off the loan. That meant I was left with no trade in and no cash for a down payment. Fortunately, the dealer I got my new car from works with a bank which finances 100% loans. My second problem is the fault of Ford Motor Company. Ford redesigned the steering wheel and seat of the 1990 Mustang in such a way that my knee hits the steering wheel when I use the clutch. The GT is worse than the LX! I was hoping there would be an adjustment for the clutch pedal, since it normally sits an inch and a half higher than the brake pedal, but no such luck. Oh, well, at least it isn't a '90 Probe. The first time I sat in one of those, my head stuck out through the sunroof! I'm only six feet tall. Why don't they make cars for normal-sized people any more?

The situation could have been worse. Bill Levy, who is 6' 9" tall, once had a salesman literally shove him into a compact car, despite his protests that he wouldn't fit. (Bill is something of a gentle giant.) They had to unbolt the seat to get him out.

Writing: Pandora magazine finally returned "One More Day," after a delay of 10 months! The editor wrote that she liked the idea of the Gifting, but that the characters were too ordinary! She claims that people changed in such ways would act differently. I think that she is missing the point of the story: How would ordinary people react to such a situation? Oh, well.

This story gets me the nicest rejection letters. Editors keep telling me that they like "One More Day" but that it doesn't fit their needs. I just wish one of them would have the courage of his or her convictions. Lisa Babcock of Amazing suggested that I write some other stories in the same universe, which I was planning on anyway.

I am *that* close to getting another story published. Asimov's rejected "Murder at the Shapeshifter's Ball," so I sent it to Aboriginal. It was returned, but with a note from the chief editor. He addressed me by name, made some suggestions for changes, said the story showed promise and circled the words "try again." I re-wrote the story, sent it back in, and it was rejected again, but with more encouraging comments. We went through this routine a couple of times, and I am now letting the story lie fallow for a while, in the hopes of approaching it afresh later. It may need just one more iteration.

Hero Games is publishing a hardcover volume reprinting selected Organization books which they have put out over the years. The original material will be converted to the new system and new stuff added to update the history of the group. One of the works chosen is my "Neutral Ground." This time the editor says that they will even include some of the material they cut out in the first printing - like the personal history of the club's founder!

In fannish circles, I have been contributing to a number of 'zines, including "Low Orbit," "The Other Side," "Barr Wars," "The Dallas Waitlist Brawl" and "The Centaurs Gatherum." This is besides a sizeable correspondence. I need to win the sweepstakes just so I can have the time to keep up with my hobbies!

Mailing Comments for APA-Tech # 70

Bear With Him (Guy): It is amazing the differences between cults and genuine religions. In a cult the prospective members are constantly being pressured to join and to accept without question, even to the point of harassment. Authentic religions urge the members to think and meditate. Your description of the Long Retreat is a good example of this. *

Unamerican Scientist (Bill H.): Re. Yr. Cmnt. Gabe 'n' Audrey: I have such a problem keeping track of my correspondence that I made a ritual of it. I write my letters whenever, even going back and editing them, but date them for the last Sunday of the month. That day, I sit down and finish all letters, print them out, address the envelopes, apply postage, and set them aside for mailing the next day. * Re. Yr. Cmnt. me: Yes, the financial reward of writing gaming material is small. The company has also done me dirty on a recent query, so I have decided not to do business with them any more. * "Higgins vs. the Saucer People" was funny, but you should be more careful. Fanatics have no sense of humor. *

Dr. Gonzo: Fun frankings, but please send something more personal in the future. *

Projectionist (Bonnie Jones): Let's stop messing around with trying to square the circle (or flatten the sphere) and just use holographic projectors for all large maps. (-: *

Dr. Minac (Barry): Hope you had a good wedding. * Actually, when I turned twenty I moaned "One-tenth of my life already gone!" * Don't be too impressed with the design of the Forerunner. So far this is still in the proof of concept stage. I simply took bits and pieces from several books and magazine articles and squeezed them together the way I wanted them to fit. Still, it shows what could be done by, say, Rutan's Advanced Composites Corp. *

Second Last (Gabe and Audrey): We recently had our two Royal copiers replaced with brand new Xerox machines. I hate the big one, in the back, near my office. Whoever designed this thing has never heard of ergonomics. It takes both hands to open the lid, and then it won't open far enough, and it won't stay open! As if that weren't bad enough, I'm allergic to the fuser oil these machines use! * We never get anything finished where I work. Something more important always comes along. *

"Nick" Ruffa: Re. Yr. Cmnt. Susannah: Several years ago, we went through our computer printout archives and threw most of them away. After all, we had them on tape. Well, the last time I tried to access one of the tapes, all the oxide fell off. And that was the archive tape, which we went to after the work tape broke. * Re. Yr. Cmnt. me: That's right, make fun of my hillbilly speech patterns! * I was using the term "chaotic" in its mathematical sense. Yes, you can reconstruct your thought processes, but this is a matter of memory, rather than exactly recreating the paths used. And you are right that there needs to be a compromise between randomness and order. *

Vadose Notes (Doug Hosto): Yes, I long ago reluctantly decided that it isn't possible to know everything about everything. You can still know a lot about a lot. *

Der Mann Von Druben: Valli's experience with the PSION sounds typical. It takes someone who doesn't know how to use something to really mess it up. *

Perambulating Parentheses: One of these days, I expect some grad student to make a major discovery simply by not throwing out all the data that the more experienced workers know to ignore. *

Mailing Comments for APA-Tech # 71

Indicia: Your note at the bottom of the page about what was contained in the account reminds me of some of the comments in the "Leather Goddesses of Phobos" game. *

Vacational Prelude (Bill L.): Air Force pilots are doing a lot more than simply flying the plane. Military aircraft are, usually, notorious in being difficult to handle. This is deliberate, since it makes them more maneuverable. There is also the fact that people who build their own aircraft are much better than average pilots. Just look at some of the stunt exhibition pilots and their kit planes. * I have bought a couple of the new Heinlein editions, and plan to buy more. *

Yellow Brick Geodesic (Greg Ruffa): Please use a different font in the future. This looks like it was printed during a vibration test. * We have also had a few severe thunderstorms. I went to work one day recently and found that the whole downtown was blacked out, because of storm damage. I was the only person in the building with a flashlight in his desk. * NASA should have built one or two shuttles and used them as test vehicles, then gone on to build four improved models. And James Fletcher ought to be prosecuted. It was his management decisions and methods which led directly to the Challenger explosion, and yet he was put back in charge of NASA afterwards. I wrote my Congressmen and told them this was a mistake, but did they listen? Now Fletcher has come and gone again: The Hubble is myopic, the Shuttles leak, and he is not being blamed. *

Mailing Comments for APA-Tech 72

555 Times: A warm welcome to our new dictator.

Valli: Welcome home!

Vadose Veins: If you single-space your 'zines you'll spend less on postage. Of course, you could also write more. * I liked the piece on the steerable drill bits. * By the way, I just told a writer that natural gas, as it comes out of the ground, has a strong odor because of the contaminants it contains. Can you tell me if I am right on this? *

Crumbcrunchers: Ah, the joys of parenthood! * I'm glad I'm not the only one who let their APA-Tech activities lapse. Let's both try to do better. * There is an interesting article on how children's speech patterns relate to the evolution of language in the May issue of Natural History Magazine. * At least you don't have possums in your basement. I killed 8 last year, two within an hour, and have chased off over a score more. * Have you been watching "Tiny Toon Adventures"? Actually, these are aimed more at high school and college kids than adults, which the original Warner Brothers cartoons targeted. * Good luck with the new member of the family. Updates, please! *

Der Mann von Druben: I have been to Scotland but not to Ireland. You reveal an interesting difference. * So much for standardization in video equipment. * I recently received a letter I had sent to Cincinnati, sixty miles from here. It had been returned because the box it was addressed to was closed. The kicker is that I had sent the letter almost a year earlier. I also sent a follow-up letter a month later, after receiving no reply from the first one. I wonder when _it_ will show up. *

Gabe 'n' Audrey: I have only had one computer virus, and cured it myself by resetting the boot sector on all my disks, which the Amiga does with a simple Workbench command. *

Books I Have Recently Read

The John W. Campbell Letters: Interesting, if limited in scope. You can learn a lot about someone from the letters he wrote, but you can also miss some important things.

Surely You're Joking, Mr. Feynman: I guess this book just goes to show that even a world-renowned genius can be a jerk.

The Last Herald Mage series: The first book made me feel very cold. The second made me feel very tired. The third made me feel pleasantly melancholy. Recommended. I have heard that the author's earlier books are not as good, and so have been reluctant to try them.

Jennifer Roberson: Her Shapeshifters series hooked me with the first book, then slowly lost me. Lately I have been trying to get caught up on these, and the recent volumes are a bit more interesting than the third and fourth.

The Last Lion: Visions of Glory (William Manchester's biography of Winston Churchill): The first and second volumes of this are excellent, and I am eagerly awaiting the third.

Remember Power Plays, the comic which inspired the Gifted Saga? The third issue is out. I don't know if this will be distributed through regular comic stores, though I suspect it will. If your local store owner can't get it, the address is:

Power Plays
Extrava-Gandt Enterprises
Mike Kelly
403 S. See-Gwun Ave.
Mount Prospect, IL 60056

Mike Kelly sent me a complimentary copy because I wrote letters to him about the original comics. I was very surprised when this showed up in my mail box, since I had long ago written the series off.

Gaming

One of my gaming friends is a major-league Elfquest fan and has started a role-playing campaign on the World of Two Moons. I had an idea for an interesting character, and Angie (the GM) is letting me try him. Ash is a human from a destroyed village, the sole survivor. He was just under a year old when his people were killed, and got his name from where the Wolfriders found him. His mother's last, desperate act was to hide him in the remains of the previous evening's cooking fire. There were still a few live coals, and he carries scars from the burns, so he's kind of ugly. The referee of the Elfquest game has made the point that Ash is probably the first human on the planet to learn to use a bow. (The time is several centuries before the regular series.)

We have yet to figure out how Ash came to be adopted. Another player has created a female elf whose tribe was destroyed by marauders, and for a while was suggesting that these were the same folk who were responsible for Ash being orphaned. Her character would be Ash's adopted mother. The idea was that she found him, and persuaded Threefoot's group to accept both of them. The only problem with this scenario is that the player of this elf is 14, while I'm 35! It would be hard to call her "Mom." Anyway, that idea has been scrubbed. The referee is still working out the details. Another player has a character whose family was butchered by trolls. A healthy bunch, we are.

There is something interesting about the selection of players in this group. This new game came about because the regular campaign had twelve people in it, and was bogging down. We decided to split into two or even three groups. For the time being, one would play "Call of C'thulu" and the other "Elfquest."

I already had a character for C'thulu, and was originally intending to play that, but Ash turned out so interesting that I decided to switch. The C'thulu group had more players anyway. What is interesting is that all the C'thulu players are male (though not all the characters... one is Lois Lane as a cub reporter in the late twenties) while, except for me, all the Elfquest players are female. Heh-heh.

Ash wants to be an elf so hard he hurts, but knows he never will be. He has consoled himself with being as good as any elf at the things he can do, like archery and axe fighting. He's half again as tall and strong as the average member of the tribe. His best friend is Twig, who is the shortest adult member of the group! Ash is very intelligent, and even at 18 is well-versed in elf lore. He can never be a storyteller, though, since dream berry juice is poisonous to humans. (I guess this makes him the designated driver.) He still takes it in small amounts, even though he knows it will make him sick, because he thinks he may build up a tolerance.

I am not an Elfquest fan and don't know a lot about the series, but have picked up enough through osmosis from members of the local gaming group and the SF club to have an idea of what is going on.

Another of my gaming friends, who has a doctorate in biochemistry, has invented a new material which he claims is much stronger than graphite. It is made from interlocking rings of carbon. Looks promising.

Interworld is nearly finished. I have been beta testing it with the Saturday evening gaming group, running the Gifted Saga game as a filler, and everyone involved is having a ball. Among other events, most of them volunteered to take part in a privately-organized study of the Gifted. Before you say that they shouldn't have trusted the people running the study, the player characters checked on the industrialist funding the private study and decided he was okay. Donald Criswold is owner of an aviation research company and a Korean War ace. Once the players met him, two were able to deduce his secret motive for the study. He wants to fly without a plane.

The procedure generally went as follows. The PCs are interviewed, then given a complete medical check. Characters who admit to having an alternate form are asked to change and repeat the tests. Now, one of the players (the biochemist) has a character whose alternate form is Rocket J. Squirrel. Can you imagine someone trying to give Rocky the Flying Squirrel a physical? How did the doctor respond? "Call the vet again!" Another character has the alternate form of a 10' gold dragon. Then there was the male player whose alternate form is Lisa Hayase from Macross. After the second physical the character was complaining about the experience to his fiance. She looked at him, smirked and said "Cold instruments, huh?"

Oh, yeah, one of the players in my gifted Saga game got a lot of enhanced intelligence (his IQ is about 500 now) and choose the alternate form of Wile E. Coyote, Soooooper Genius. What's really funny is that his personalty matches the fictional character's!

Upcoming Cons

I will be at Rivercon in Louisville and the Worldcon in Chicago. There will be five of us in a room at Chicon this year. We were originally going to be six in a one-bedroom suite, but one person made other plans and some of the others decided that five in a suite was too expensive. Argh. Oh, well, I suppose I can put up with the crowding for five days.

Other Stuff

I am teaching self defense to five friends. Four are from Lexington (KY) and the other from Versailles (KY). We meet on the farm in Versailles where the fifth member lives. Two of my students haven't been able to attend regularly due to commitments, but all seem to be both enjoying themselves and learning a lot.

Odd; I could have sworn I had a full page, here. Oh, well, 'Till next time!

Rod

CRUMBCRUNCHERS, INC.
P.O. Box 98
Ripley, OH 45167

A lot has happened since last I wrote, probably the most important being a new Crumbcruncher, Dora June, who was born on August 11, 1990. She's just starting into crumbcrunchiness, having cut two teeth. Hopefully you've all also received a copy of our other baby, HOBSON'S CHOICE. We welcome your comments. (We realize there's only 25¢ on the reply envelopes, but they were mailed out before the postal increase.)

Dave's new business is called Life & Energy Systems; within its framework he's using his business management skills as a practice management consultant to mental health practitioners. I'll let him tell you about this himself, as he explains things much better than I.

Marlene is less than a month away from finishing first grade. She can read like a real pro now, though says that she "hates math." (I'm not sure why this is - she's says "it's boring." I don't want her to be turned off math so early in her school career - that would be a real disaster. It's only at school that this seems to be a problem - she received a "Speak and Math" for her last birthday, and can play games on it that I have a hard time figuring out! Suggestions, anyone?)

Back in November, school issues all across the state were voted down. Cincinnati's schools especially are in trouble. Here in Ripley, though, voters overwhelmingly approved a decision to build a new high school. The grade school (built in 1915) and the high school (built in 1932) just couldn't cope with the growing student population (the next village over had to shut down its schools, and their choices were either to merge with the Ripley school district, or bus the children into another district over 20 miles away). Facilities needed to be modernized, too - furnaces replaced, etc. There's no kitchen at the grade school - not an issue in 1915, but a distinct handicap these days. If all goes well, the new high school will be built by 1993, and the grade school will move into the current high school. The grade school in town will be abandoned and I don't know if anyone has thought of what will happen to it - it's a fine example of Jacobethan architecture, and it would be sad to see it destroyed (to say nothing of the fact that it's part of the Historic District).

Marlene has already decided that she'd like to attend Space Camp, and doesn't understand why kids younger than fourth grade aren't allowed to participate. She got the video of "Space Camp" out of the library and watched it about five times (a difficult task, considering that it was checked out for only two days!), quite avidly. I think the question is, who gets to go to Space Camp first? I'd like to attend the special camp for teachers, or at least the one they offer adults! (They used to send me their catalog, but guess they've dropped me off their mailing list, so I'll have to write to get put back on.)

We've picked up a lot of "techie tools" over the last year or so - an answering machine (after missing a very important phone call from a woman who said that we "must be the only people in the United States who don't have an answering machine"), a fax machine, a second hard drive, a

Mac portable and a little portable printer. These last two Dave got specifically so that he can market them to practitioners who have no office of their own. There are actually quite a few of these types around, who are affiliated with hospitals, churches or other social service organizations, and are always having to borrow other people's offices. With the Mac, however, they'll be able to have their client records with them, so they can consult them, input notes after sessions, bill clients, etc.

A lot of shareware games came with the new drive, including (of course) Klondike and MacNinja. Marlene has figured this one out, and can now work her way through the first level of white all the way to black with no trouble at all. She scorns reading instructions, however, so frequently has to be shown "tricks" of a game (such as that pressing the space bar will make her player duck, so that he can avoid the ninja's throwing stars).

Dave's going to demonstrate his hardware (and software - he's got a lot of practice management software that he 's marketing) at an upcoming conference and hopes to garner a few clients. He's going to take both the portable and the CX with him for this show, so I am bustling about trying to get another issue of the magazine together before it takes place. I'm having quite a struggle with the "Robots for Space" article. (This convinces me more than ever to accept only stuff that needs the minimum of editing. Most of the editing in this case is cutting superfluous stuff and toning down the technical language a bit. This problem only arises with nonfiction - fiction that "won't fly" doesn't make it. Guess I've got to get a lot more discriminating.)

The newest Crumbcruncher rolls over like a pro - she can navigate an entire room using this type of locomotion. Though she hasn't started crawling yet, she's shown us that this skill is in the offing, as she IS able to get up on her hands and knees and rock herself back and forth. She's forced me to learn a number of new skills, such as typing and playing the piano while holding her on my lap. (My short-term one-handed typing speed is not bad, though I definitely have to look at the keyboard as I'm doing it.) The quality of typing and piano-playing done in this fashion is rather low, however.

The Methodist Church had its 86-year-old pipe organ repaired (the 86-year old leather on the bellows was deteriorating beyond repair), and for the first time since I've been playing the instrument, it's performing to its full capacity. The builder who did the repair work made sure that the hand pump was left intact, so one can still pump the organ by hand, as in the days before it was electrified. The long wooden pump handle is back in the organ works, and operating it makes me think of nothing so much as using a car jack. To play a hand-pumped organ is an interesting experience, since if the bellows aren't kept filled with air, you get a sinking whine instead of the music you intend! If you've ever played a 19th century parlor organ you know what I mean! With the parlor organ, though, YOU'RE pumping the bellows. With this organ, you have to depend on somebody else, and he/she better have a lot of stamina, especially if you have a piece that lasts over a minute or two! At the rededication service in December, I played a short Bach number, and just about tuckered out the pumper, a very stout gentleman in his 50s (he volunteered for this job, as he'd had experience pumping the organ when he was a teenager).

Well, out of space and out of time. More crumbcrunchy adventures later

Susannah

At the last possible second . . .

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Addicted to Reading

My reading has been getting out of hand lately. It seems that when I'm home from work I've not my nose buried in a book or magazine. I've set aside an hour each day to get some exercise, but other than that it's been read, read, read.

And, interestingly enough, I've noticed some accidental connections between what I've been reading. For example, I read James Randi's book on the prophecies of Nostradamus (The Mask of Nostradamus), in which he briefly mentions new-age weirdo Ira Einhorn. Coincidentally, I had also checked out the book The Unicorn's Secret: Murder in the Age of Aquarius (which contains the inside story on Ira Einhorn) when I saw it sitting next to the book by former-New Orleans police detective John Dillman (The French Quarter Killers) I was looking for.

I started thinking that I've been reading too much fiction lately, and I ought to read some non-fiction for a change. In addition to my typical Computer- and Publishing-related fare, I thought I'd look into something else. What I've been reading can be divided into three broad subjects:

First is nonfiction of the True Crime variety (which, in general, is written about on the level of the stuff you'd find in True Detective). Linda Wolfe's book The Professor and The Prostitute & Other True Tales of Murder and Madness is a particular example of poor writing, hack-psychology and ridiculous statements. I read three books by John Dillman: Deadly Weekend, A True Story of Obsession and Murder, Unholy Matrimony, and The French Quarter Killers. Dillman's books are quite interesting, showing as they do the inside story of the police work behind the solution to the crimes. I read Deadly Weekend first, and out of all of them it remains my favorite. The writing in it is much tighter than in the earlier books, and the pictures are far more informative, and the hype is much less. In the inside jacket of The French Quarter Killers, for example, says Detective Dillman went undercover as a pimp to singlehandedly discover an important witness. Well, this lead me to expect that he was going to be undercover for much of the book. Not at all! This undercover thing was a one-shot, after shift excursion to a rough bar which garnered no leads, no facts, no witnesses, no nothing! Also falling under this category is The Unicorn's Secret, and the book I'm currently reading, What Cops Know by Connie Fletcher. What Cops Know is quite interesting; it is almost entirely quotes by Chicago police, as reported to Ms. Fletcher. Many of the stories they tell are humorous, gruesome or a combination of both.

The second category is Religion/Superstition. I read David Rice's Shattered Vows, a book about priests who leave the priesthood, Arthur J. Deikman's book The Wrong Way Home: Uncovering the Patterns of Cult Behavior in America, James Randi's books The Mask of Nostradamus and The Faith Healers. I am trying to check out the library's sole copy of Flim Flam (which contains sections on Unicorns, Uri Geller and who knows what other things), but so far I've had no luck getting my hands on it.

Third and lastly, I've been reading a bunch of stuff concerning words. This started with a humorous article entitled *Spell Checker in the Basement* by Robert Kirby in the April edition of WordPerfect The Magazine. In this article, Kirby talks about his spell-checker, and why he's sometimes afraid to use it. Being a professional writer, he can't afford to accept the spell-checking program's suggestions without serious thought. For one thing, his editors will think he's stupid, or as he puts it:

> Everyone seems perfectly willing to accept that the correct spelling for Albuquerque can occasionally be overlooked. There is, however, less patience for the fool who mistakes "are" for "our" or "too" for "two." When that happens, the editor fires off a curt note demanding that proof of an elementary education be submitted with your next manuscript.

But, he goes on to say that spelling checkers aren't much use for fiction writers, since they can't handle dialect. Here's his example:

> Take this scintillating prose I wrote about two country folks headed for town:
>
> "Yup, Dorcas," Cletus said. "Soon's we git these h'yar hawgs to market, I'm gonna get y'all the purtiest bonnet. Dammit, Buford! Siddown back thar."
>
> A fiction writer can't afford to be frivolous or trusting with the replace key. Or else this is what you get:
>
> "Yap, Darkest," Clods said. "Soon's we gift these hair hags to market, I'm goiter gift y'all the protest bonnet. Dimwit, Biforate! Sweden back tar."

Kirby goes on to suggest the need for spelling and grammar checkers with versions for "Upper Appalachia Porch Palaver", "Southern California Surfer Dude Lingo," and the like. Now I don't see any reason why this couldn't be done, and, in fact, I'd like to see it happen. What I'd like to see is a spell-checker/grammar-checker with attachable/removable libraries, so when it doesn't find a word, I can just hit a key and tell it to look for that word in one of the other libraries. I would like to be able to set up the program to use one specific library as the default (normal english, in my case), and then have the primary lingo or dialect added as one as a secondary library, and still have the ability to add libraries on at will. Also, when words are added, the user should be able to select which library of words they should be added to (normal english, surfer-dude, Appalachian, etc.). I know that this is possible to do, but since I'm not a programmer I can't do it. I suspect there is quite a market for this sort of thing among fiction writers. Even for myself, I'd like a separate library of people's names, and it wouldn't be a bad thing to keep them separate by group either, since for example, the spell-checker is never going to know I mean John when I'm talking about work and Jonn when I'm talking about High School.

Since I dislike scraps of paper floating around my house, and since I think paper is a dumb media, when I find something I really like and want to keep, I put a copy of the file on my computer. Since I don't have a scanner with OCR, this means a large part of my life is devoted to thinking about how much I like something and whether or not it's worth saving (i.e., typing into my computer). Well, I thought the above article was, so I had to type it in. My spell checker gave slightly different answers for some of the dialect words, in Kirby's example, but this was almost certainly because I've added words to my library. However, since I was checking this, I was really got to thinking about the second example, and I realized that if I read it right, it still made sense, sort of. Kind of like the rhyming Cockney slang, wherein "Cape of Hope" becomes "Cake of Soap". This in turn reminded me of an article I read in the Next Whole Earth Catalogue (which I have reproduced in its entirety below):

Ladle Rat Rotten Hut

by H.L. Chase
The Next Whole Earth Catalog; Access to Tools

Wants pawn term, dare worsted ladle gull hoe life wetter murder inner ladle cordage, honor itch offer lodge, dock, florist. Disk ladle gull orphan worry putty ladle rat cluck wetter ladle rat hut, an fur disk raisin pimple colder Ladle Rat Rotten Hut.

Wan moaning, Ladle Rat Rotten Hut's murder colder inset.

"Ladle Rat Rotten Hut, heresy ladle basking winsome burden barter an shirker cockles. Tick disk ladle basking tutor cordage offer groin-murder hoe lifts honor udder site offer florist. Shaker lake! Dun stopper laundry wrote! Dun stopper peck floors! Dun daily-doily inner florist, an yonder nor sorghum-stenches, dun stopper torque wet strainers!"

"Hoe-cake, murder," resplendent Ladle Rat Rotten Hut, an tickle ladle basking an stuttered oft.

Honor wrote tutor cordage offer groin-murder, Ladle Rat Rotten Hut mitten anomalous woof.

"Wail, wail, wail!" set disk wicket woof, "Evanescent Ladle Rat Rotten Hut! Wares are putty ladle gull goring wizard ladle basking?"

"Armor goring tumor groin-murder's," reprisal ladle gull. "Grammar's seeking bet. Armor ticking arson burden barter an shirker cockles."

"O hoe! Heifer gnats woke," setter wicket woof, butter taught tomb shelf, "Oil tickle shirt court tutor cordage offer groin-murder. Oil ketchup wetter letter, an den - O bore!"

Soda wicket woof tucker shirt court, an whinny retched a cordage offer groin-murder, picked inner window, an sore debtor pore oil worming worse lion inner bet. Inner flesh, disk abdominal woof lipped honor bet, paunched honor pore oil worming, an garbled erupt. Den disk ratchet ammonol pot honor groin-murder's nut cap an gnat-gun, any curdled ope inner bet.

Inner ladle wile, Ladle Rat Rotten Hut a raft attar cordage, an ranker dough ball. "Comb ink, sweat hard," setter wicket woof, disgracing is verse.

Ladle Rat Rotten Hut entity bed rum, an stud buyer groin-murder's bet.

"O Grammar!" crater ladle gull historically, "Water bag icer gut! A nervous sausage bag ice!"

"Battered lucky chew whiff, sweat hard," setter bloat-Thursday woof, wetter wicket small honors phase.

"O Grammar, water bag noise! A nervous sore suture anomalous prognosis!"

"Battered small your whiff, doling," whiskered dole woof, ants mouse worse waddling.

"O Grammar, water bag mouser gut! A nervous sore suture bad mouse!"

Daze worry on-forger-nut ladle gull's let warts. Oil offer sodden, caking offer carvers an sprinkling otter bet, disk hoard-hoarded woof lipped own pore Ladle Rat Rotten Hut an garbled erupt.

MURAL: Yonder nor sorghum- stenches shut ladle gulls stopper torque wet strainers.

The true story of "Ladle Rat Rotten Hut"

"Ladle Rat Rotten Hut" is often attributed to Anonymous, but it was actually written by H. L. Chase. He was a professor of French at Miami University in Oxford, Ohio, retired in 1965 and now is living in Cincinnati. He's in his eighties. I talked to him by phone about the story.

"I wrote it about 1940. It was going to be part of a little article I was writing. It was in the days of rationing during the war and I thought about what would happen if we had to ratio language. If our vocabulary were cut in half, we'd have to get along with other words. Consequently, I thought I'd see how you'd get along with the other half. I've never written that article, but I've always thought of doing it."

"I taught French, and I used the story in my class to show the importance of intonation in learning a foreign language. You see, if you take these English words and put them in columns like a spelling book and just read them, they have no meaning. However, if you read them with the proper intonation, the meaning appears for certain people. For other people the meaning never does appear.

"I never submitted it to anybody, but it got spread some way or other. It's one of those things that got completely out of control. I showed it to a few friends and to a book salesman who came to see me. He like the thing because it had to do with words. I think I may have given him a copy, and he must have given it to someone else. It first appeared in print in the Merriam Company's magazine Word Study. I think it got in Stars and Stripes [U.S. Army Newspaper] because I heard from people in Baghdad, Sweden, all over the world. Sports Illustrated found it in another publication and gave me $1000 for it. Arthur Godfrey found it in Sports Illustrated, and he broadcast it and very generously told any readers that wanted a copy they could have one by sending me postage. To my surprise, I mailed about five thousand of them. After that episode, Prentice Hall asked me to write a series of stories for a book, which I did [Anguish Languish was published by Prentice Hall in 1955.]

"The book sold fairly well for that sort of thing. It went through four printings I think, maybe 14,000 copies total. It's used now a good deal in textbooks to demonstrate the phonetic structures of English. The book has been used by some psychologist to determine the ability of people to understand sound, to study the limit of distortion that can be comprehended. That varies from person to person.

"People who like it best are language people, teachers, lawyers, and doctors. That's almost all the people who are interested in it. And children, strange to say. I've had a lot of letters from them."

I asked him if it bothered him that it is often printed without his name. He said, "Well, it doesn't bother me, but it's just that if I had a cent for every Xerox copy, I'd be much better off because I know it's been copied by the thousands."

The book, Anguish Languish, is out of print and very hard to find. Chace himself only has one copy. Dover or somebody should reprint it.

—Anne Herbert
The Next Whole Earth Catalog

If anyone has or sees the book Anguish Languish for sale (preferablely under $15), please get it and send it to Gabe. He's been looking for it ever since I made him read *Ladle Rat Rotten Hut*. And I'd be mighty interested in reading it myself, too.

Nostradamus

Randi's book on Nostradamus was interesting. Several people who know I've been reading it have asked me whether he can predict, has predicted, and will predict our future. The answer to all three questions is "no." It seems that he wrote about things relative to his own time, about events which has just occurred. Since he had contact with people who had access to "inside information" he could release his "prophesies" before the common person had access to the knowledge, a task made much simpler by the fact that he didn't have television, radio and the daily newspapers to contend with. But, since he did have to contend with the Inquisition (and he and his prophesies were often at odds with the church), he couldn't just say anything outright; it had to shrouded with rhymes, riddles, and ambiguity. This had and continues to have the effect of making the quatrains difficult to decipher and easy to apply to more than one situation. Thus, creative individuals have been able to reapply verses written about events in Nostradamus's time to events which occurred centuries later.

The prophesies were written in a form of quatrains is known as vers commun; they have four lines of ten syllables each, with a strong pause after the fourth syllable of each line. As an example:

Nostradamus, in his four-sided hat,
Told his strange tale in a kind of ping-pong.
Hinting at this, making guesses at that,
Too bad for him, but his forecasts were wrong.

(Adam Jersin as quoted from The Mask of Nostradamus.)

About Work

On other fronts, I'm still working for the same rotten place, but since I haven't done much to leave, and I'm as tired of complaining about it as everyone else is about hearing it, I'll say no more on the subject.

My own business isn't doing to well; I've had only two clients in the past month, both of whom have (so far) neglected to pay. But, I've been getting some new software. I've got some utilities for Ventura which I am eager to try (haven't had a chance yet, but I will after typesetting this article). And, I'm going to be receiving a 30-day free trial of the program Legacy from the folks at NBI. This is a new typesetting program which runs under Windows 3.0. It has many things in common with Ventura, however it has several features which are more advanced, including: built-in spell checking, thesaurus, UNDO/REDO, on-line context-sensitive help, and dynamic data exchange (DDE). I am pretty excited about trying it out, but I would be more interested if Ventura itself could do it. I've got a lot of time and data invested in Ventura and I don't really want to make the jump. But, I don't want to keep using an out-dated product due to a misplaced sense of loyalty, either.

Music Collection

I've also been listening to and thinking about music quite a bit. I think I've finally decided that my favorite type of music is Blues.

I've been trying to remember to take a late lunch on Wednesdays, since that is when WDET broadcasts Ruth Brown's Blues Stage (Wednedays, from 12:30 to 1:30). I'm even considering taking June 19th off in order to celebrate Alligator Records 20th Anniversary. (Alligator Records is devoted to Blues, and has signed some of the best acts out there today, including Saphire The

Uppity Blues Women, Son Seals, The Kinsey Report, Johnny Winter, Muddy Waters, Big Twist and the Mellow Fellows, among others.

Speaking of the blues, I've been trying to read Crosstown Traffic: Jimi Hendrix and the Rock 'n' Roll Revolution by Charles Shaar Murray. Although I have renewed it from the library three times, all I've managed to do is look at the pictures and read the Discography. The Discography is frightening. It's 14 pages long and has lots of blues recordings I'm familiar with and want, and lots I've never heard of but now want to get. I've got only the book for a few more days; then the library won't renew it for me any more.

Besides the blues, we've also been listening to some folk music of the variety known as "progressive," best embodied by Mark O'Connor, and some wonderful guitar by Danny Gatton.

Oh, and we added to our P.D.Q. Bach collection last month also. We got a little carried away at the CD store — we now own more P.D.Q. Bach than any other artist/composer. How rediculous!

Which reminds me, Erich Kunzel and the Cincinatti Pops Orchestra have released yet another CD. I think Kunzel is trying for the record as most-recorded conductor.

They've Moved & They're Back!

Bob & Connie just bought a house in Roseville, Michigan. I won't tell you any of the details, except to say that before they could purchase it, the house needed to be re-roofed, a job in which we helped. Then the truly fun part started: helping them move. I don't have the address with me, but that's OK; I've convinced them to write for APA-Tech again! So, you'll be hearing about it directly from them, and soon!

Why Couldn't I have gone to a school like that?

I'm also sending along the following article from May issue of Publish. It's about computers and kids and school. These children definately have an educational advatage, and , I wonder what effect it is going to have on their career choices and adult life.

See you all in two months!

Wait, I'm Not Done Yet!

Anyone who has ever been in my office at home can tell you I'm slightly addicted to computers. Heck, a lot of people have never even been to our home and could tell you that. At the moment, there are four microcomputers, three minicomputers, and three printers in my office. Most of them work properly. But sheer processing power isn't enough to hold me enthralled for hours at a time. I need software to do that.

I spent a lot of time collecting and reviewing public domain software and shareware. The software that impresses me the most, or that I think other people will find useful, is made available for download on our BBS. One of the risks of doing this is that I occasionally find a program that is too much fun and I spent a lot of time with it. The latest software to fall into this category is the BBS software I'm now running; it's a program call Waffle.

I don't know why the author named it Waffle. He may have been drinking. He might have picked it at random. He might like waffles. Doesn't matter much, though. I'm having too much fun with the software to care.

The process by which we came to be running a BBS is worth mentioning here. Every now and then I'm at a friend's home discussing software and someone will mention that they are looking for a tool to do this or a good utility to do that. My reply was often, "Oh, yeah. I've got a program like that at home." They would reply, "A lot of good that does me right now. Can you upload it to *generic-bbs-name* when you get home?" Hmm, I thought. Why couldn't they just call my machine and download it? That shouldn't be too hard to set up.

Thus, our first system was set up originally to provide me with a means of accessing software when I was away from home. We had an XT clone that wasn't being used most of the day and I set up my communications software (Telix) in host-mode so that I could dial in and get files.

Because we only had one phone line, the modem was setup to answer on the sixth ring. Most human callers would get the answering machine on the 4th ring. Those who knew my XT was in answer mode when no one was using it knew that they could call, let the answering machine pick up the phone, hang up, and call back right away. Because the answering machine had to finish playing its outgoing message before it was ready to answer another call, the phone would ring 6 times while the message was playing and the modem could pick up the call. Not the most elegant set-up, but it worked.

Telix host-mode was replaced with Fido, then Opus, then QuickBBS. Then we moved and decided that our new home would have TWO phone lines. Audrey started to assist me with maintaining the BBS and keeping things organized.

Recently, we dropped QuickBBS in favor of Waffle. Waffle was selected because it is small, runs on MS-DOS and UNIX machines, supports all the features I like in a BBS (upload/download ares, mail, forums), and supports UUCP.

That's where I stand now. I've recently declared my existance to the rest of the world as angus.UUCP. It will be a while before that is a widely recognized address. It will take a month or two for different systems to get the updated maps that contain my address. I'll offer three ways to send me e-mail:

gabe@angus.uucp
angus!gabe@teemc.tmc.mi.org
...umich!teemc!angus!gabe

Eventually, I hope to register angus within the .mi.org domain and establish "angus.mi.org" as a valid address.

This opens up the posibility of submitting APA contributions by mail. Any thoughts on this possibility?

Lunching with Valli

As you know, Valli and Joachim are now residing in the Greater Detroit Metropolitan Area. Since Valli and I are now both working in the same building (the Renaissance Center), we manage to have lunch together about once a week or so. This allows us the luxury of talking about subjects that we never would have tried to discuss in an APA format. And we don't have to wait weeks for a response. It's an interesting situation. Sitting down with someone you're used to corresponding with and getting a reply without having to wait. It took me a while to get used to it. After some small adjustment period, we started to discuss a variety of topics with a rapid-fire exchange of comments and replyies that was quite pleasing to experience. One of the topics we both like to bring up is travel. We're both for it.

Travel Notes

When it comes to travel, I like to avoid any route begining with "I-". This includes I-94, I-75, I-96, etc. In general, I try to keep to roads with no more than two lanes; perhaps an occasional passing lane in hilly areas. It makes the trip slower, but much more interesting. The relaxed pace suits me just fine. I will resort to an interstate highway when I'm in a hurry, but I try to plan my travelling so that I'll have plenty of time to see the scenery.

In addition to major highways, I also avoid McDonald's. Or Burger King. Or Taco Bell. I like to try local eateries, taverns, and hot dog vendors. Hmm. I do like McDonald's french fries, but that is the fast food industries sole contribution to humanity. And as long as I'm talking about my dislikes when travelling, I should mention a motel (it billed itself as a hotel) I stayed at in Chicago. The bed creaked. The walls were thin, tympanic membranes that caried sounds efficiently from one room to the next. The wallpaper was stained. Some of the bathroom fixtures were corroded. The sign on the front of the establishment said "Hilton". It was the Hyde Park Hilton. It shattered my opinion of the Hilton name. These days, I stick to Quality Inns, Motel Six, or Red Roof Inns. They're much nicer.

Valli and I discussed travel experiences during a number of lunches. Eventually, we hit upon an idea. The APA crowd is fairly well travelled. Why not share our experiences, not just in the narrative form of normal contributions, but in the form of reviews of restaurants, lodgings, and places to visit. Pass the reviews on to the editor for inclusion in an APA travel guide. Each issue, if the response justifies it, we would publish the travel notes people had sent in. And send out copies of the collected reviews with the first spring issue each year. I'd be interested in your feedback.

Mailing comments

Crumbcrunchers:

Re: trees. A tree called "Tree of Heaven" and "Stink Tree"? I get the impression that someone had a warped sense of what heaven might be like.

Re: kindergarten teachers. I have a certain admiration for them myself, having one for a mother. Her enthusiasm for her work never fails to amaze me. She gets a great deal of satisfaction from having the first crack at all those young minds. Besides, she comes up with some VERY funny stories regarding her experiences with 5-year-olds.

Re: Borders. Yes, We've got two in the area (Southfield and Novi). They are very, very evil and I try to avoid them. When I do go, I try to remember to leave my cash/checkbook/plastic at home.

The Rest of You:

I'm running late and the editor is threatening to beat me. I'll catch up on more mailing comments next time!

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In Search of Nintendo for the Mind

By Howard Rheingold

"In the late 1990s, a critical mass of affordable tools and well-designed and tested learning software will make a true revolution in learning possible."

Geoffrey Nelson

During the early 1980s, I saw the natural enthusiasm that kids displayed for the first generation of video games, and I became excited. Excited about the potential revolution this kind of motivation could perpetuate throughout the U.S. educational system. I began to imagine what would happen if the computer became an intellectual playground where kids could learn how to learn—a PacMan for the mind.

I was not alone. Indeed, almost a decade has passed since the first optimistic predictions were made regarding the role of personal computers in the classroom. Yet education in America is still deteriorating. Commentators are now wondering whether this technological optimism was not only a matter of overly optimistic punditry, but also a symptom of seriously misplaced priorities. Why should we continue to pursue this elusive vision of multimedia-equipped classrooms when teachers continue to be underpaid, entitlement programs have eliminated art and music, and even school lunch supplements and school construction bond issues fail to win community support?

Yes, there is a problem with our national priorities. Teachers should be paid more, our educational infrastructure does deserve at least a fraction of the public money that is devoted to weaponry, and communities ought to pay more attention to their deteriorating schools. But the quest for technology-assisted breakthroughs in education should not be abandoned.

Learning from Our Past

The first "revolution" in educational computing was a flop because the model of education was the wrong model. Computer-aided instruction flunked because "teaching machines" were designed according to a model of education in which knowledge was regarded as a commodity to be transferred from the teacher to the student.

Today, there is a push for a computer education revolution that operates under a different kind of model, where learning is a process of discovery. Children are natural scientists; they thrive when they can learn by co-exploring with their teachers, not when acting as passive recipients for a predigested curriculum. Kids who program computers can learn more than kids who are programmed by computers.

One leader in the field of interactive learning is Ann McCormick. My six-year-old daughter, Mamie, and I visited her at the Media Laboratory at the Nueva Center for Learning near San Francisco. We were excited about what we saw: First graders were conducting online literature searches, building HyperCard stacks, exploring sophisticated simulation software, and using CD-ROM and videodiscs to study history and current events.

Nueva Center: A Revolutionary Idea

Nueva Center, founded in 1967, is a small private school. Although the innovative programs there are funded by a level of tuition that few parents can afford, a generous scholarship program enables approximately 10 percent of its student population to come from poor families. The center has two missions: To create an outstanding elementary and middle school for gifted children, and to participate in the revitalization of the educational system of America and the world.

While we were waiting for Dr. McCormick to show up, Mamie sat down at one of the computers and taught herself to use a Macintosh program called Talking Tiles from Bright Star Technology, Inc. On the screen, an animated mouth pronounced phonemes when Mamie pointed at various letters. By dragging the letters down into a workspace and combining

Nov
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perfo
accele
unava
IMPRE
drawi
and r
Matro
Desig
Matro
Micros
Corel
respec

them, she watched while the software sounded out her name. Then she spelled all the words she knew and watched and listened while the software used phonetics to arrive at a pronunciation. For kids just learning to read, it's a neat little tool.

When McCormick arrived, we chatted in the computer room and watched while computer specialist Kristin Thomas guided first, second, and third graders through the use of "grown-up" software to learn about history, mathematics, world events, and art by creating their own curricula. Mamie sat at a table and played with plastic blocks specially designed to make mathematical concepts concrete and visible to kids who are using them to create imaginative structures.

Children from grades two through seven used Paracomp's Swivel 3D to create virtual worlds and explore them using state-of-the-art equipment donated by VPL Research, developers of the "smart glove" and other virtual reality products. Grades five and six studied revolutions in the United States, China, Russia, France, and Eastern Europe, and created desktop media presentations using HyperCard, MacRecorder, and a scanner.

Young students learn online search and retrieval skills by using modems to connect with Dialog, PeaceNet, and The WELL. Students in grades three and four study the Middle Ages by participating in a simulation that continues for months; during this simulation, children play the roles of nuns and monks, scullery maids and knights, kings and queens. They explore HyperCard stacks that enable them to make their own presentations from videodiscs of the Louvre's art collection and the celebrated Bill Moyers-Joseph Campbell PBS television series *The Power of Myth.*

The Future Is Five Years Away

In addition to teaching students and teachers how to make the best use of the multimedia technologies available, mathematics, music, art, and history specialists are creating interactive learning software for teaching the principles of these subjects and, most important, showing children how to explore these worlds of knowledge by themselves.

"We've trained more than 1,000 teachers here," said McCormick. "Although these tools are expensive now, and programs like this are limited, by the time the hardware and software we are using today is affordable by public schools—five to ten years from now—we are going to have a solid body of integrated knowledge to go along with the tools. In the late 1990s, I expect that a critical mass of affordable tools and well-designed and tested learning software will make a true revolution in learning possible."

While pioneers such as Ann McCormick are blazing trails, and the prices for the hardware platforms drop to publicly affordable levels, the rest of our society has time to mobilize. Learning as exploration is an old idea by now in avant-garde educational circles. It is up to motivated parents, students, teachers, and other concerned citizens to educate themselves about these empowering educational philosophies. And it is up to school boards and the voters to decide that we need to start planning now for an educational revolution that will not fail. Nothing less than our future is at stake. ■

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NOTES FROM THE VADOSE ZONE

Doug Hosto
Apt 224
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1-318-981-3169

As I had expected, the new year has brought me a new address. (Please note new address.) I am now firmly emplaced in the heart of Cajun Country as every one proudly and insistently tells me. Lafayette, for those that are unfamiliar with the local geography, is roughly half way between New Orleans and Houston. I chose Lafayette because, although it is a small city, it has all the facilities that I wanted in a unique cultural environment. Lafayette is also the home of South West Louisiana University. So, it has all the educational and cultural opportunities of a college town. Anything that I can not get here can be gotten in either New Orleans or Houston. But, enough of the Chamber of Commerce spiel, I am quite comfortable here and it is much closer to my work than Illinois was.

As for my work, I have been engaged in drilling a series of wells offshore for Oryx Energy Co. (formally Sun Oil Co.). This project has been going on since the beginning of the year and may last until the end of the year. It is nice to be working on a long term job like this because I can figure out my time off schedule more than a few weeks in advance. The average offshore well is finished in 30-60 days. It is a long and involved process for me to get to work. We make crew on Thursdays at 6:30 A.M.. I usually get up at 3 A.M. Thursday mornings. I am packed and on the road by 4 A.M. for a 2 1/2 hour drive to the Heliport at the former Houma air base in Houna La.. After I sign in and weigh in, I catch my helicopter for a 90+ minute flight out to the rig. Depending on the number of people who are flying out we either take a small 5 passenger helicopter, a BO-105. The BO-105 is made by the West German (I guess these days that should only be German) Company of Messerschmitt-Boelkow-Blohm maker of German´s most famous fighters ofthe Second World War. I like to fly in the BO-105 because I can sit up in the front seat and with the plexiglas nose you get a real good veiw of the landscape as we fly along. The only problems with the BO-105 is that is is cramped for someone as large as I am and it does not have a radar so it can fly only in good weather, of which we have not had a lot of lately. If we need to bring out more than a few people, then we fly in a Bell 412. The 412 will carry up to 13 passengers and is equiped with radar so it can fly in all but the worst weather. Mornings, this time of year, are usually foggy. So, there are often waits of several hours at the heliport for conditions to permit flying. Some days thunderstorms have kept us grounded for days. So, it is either back home or a Motel room overnight and try again next morning. Even the radar equipt helicopters, will fly at night only in an emergency.

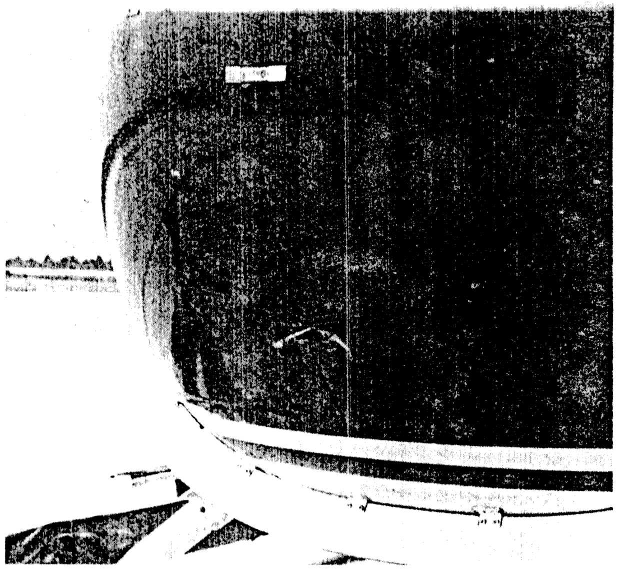
I have included a Passenger Briefing Card for both the BO-105 and the Bell 412 to give you some idea of the procedures that we have to go through to fly offshore. This year has been one of the stormiest that the pilots can remember. Not only in the number of thunderstorm but also in thier intensity. This last thursday (5/9), when I was on my way back to the heliport from the rig, a large cluster of very severe thunderstorms blossumed around the heliport at Houma. We were flying in the BO-105 which does not have a radar. We were flying around the edges of the storms trying to find a way between them. After dodging several water spouts which were invisible in the air but detectable by the spray they kick up in the water, the pilot decided to land at Fourchon LA. which is about 60 mile SE of Houma. We waited at the heliport there for a little more than an hour for the storms to pass. It has gotten so that I no longer need a calender to tell me what day of the week it is. If it is foggy or stormy it must be Thursday.

I am also including a couple of articles about the effort to control the oil well fires in Kuwait. I think that you will find them interesting. A quick note about some of the terms used might help. A relief hole is a second drilled well that intersects the first well above the producing zone allowing them to regain control of the blown out well. It is use when the surface equipment is too badly damaged to to be used. GOR is the gas to oil ratio. Most wells produce a mixture of oil and gas. A GOR of 500/1 means that the well produces 500 times as much gas as oil. bpd is barrels per day. MM gal is 1 million gallons (a thousand thousand). If you have any questions do not hesitate to contact me.

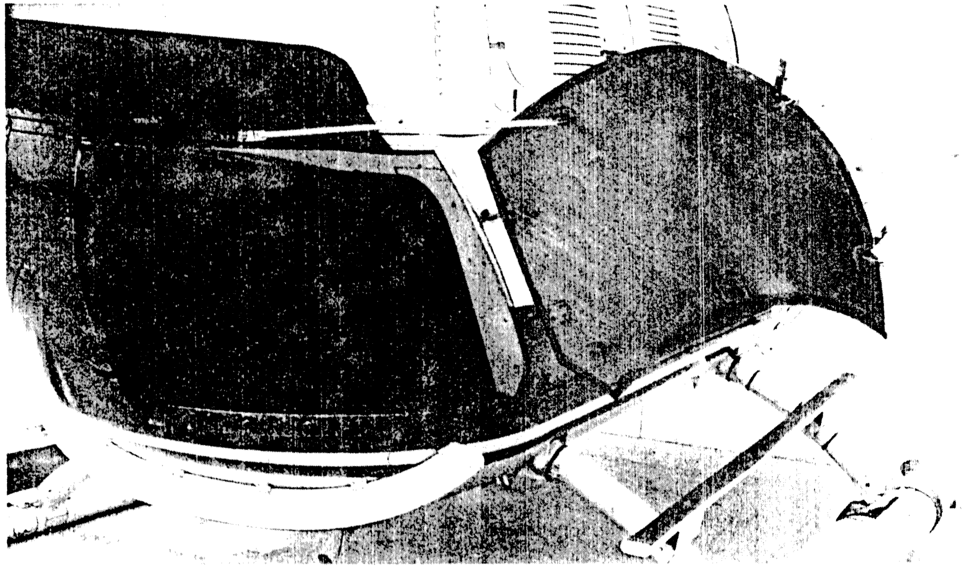
BAGGAGE DOORS

TO OPEN: Open bottom latch first. Open top latch.

TO CLOSE: Close bottom latch first. Close top latch.



CAUTION! BEWARE OF TAIL ROTOR



Rods used to hold baggage door open are attached to the inside of the door nearest the hinge. Unfasten rod at lower end and swing out.

Attach to door frame as in the photo above.

STOW RODS BEFORE CLOSING DOOR!

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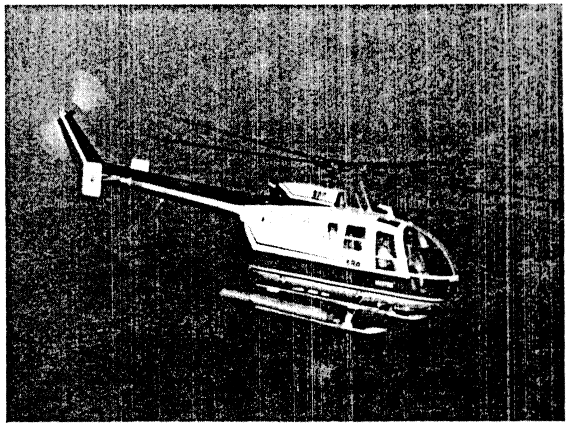


B0-105CBS. *MBB's Twin Jet II helicopter is the backbone of Era's fleet. This five-passenger light twin engine helicopter cruises at 130 mph and can handle bulky outside cargo easily. Era is the single largest commercial operator of the BO105-CBS worldwide.*

PASSENGER BRIEFING CARD

SAFETY AROUND HELICOPTERS

1. **AVOID MAIN & TAIL ROTOR**
Approach or depart from the front or side, within the pilot's field of vision. Never depart uphill while under the rotor blades.

2. No smoking during takeoff, landing or refueling.

3. Keep seatbelts and shoulder harnesses fastened at all times.

4. Load or unload cargo with pilot's approval only. Make sure it is securely fastened, or if unloading, that the cargo racks or baggage compartments are empty and any tiedowns are secured. Don't throw anything onto or off of the helicopter, nor raise anything above your shoulders.

5. Be sure loose objects (including hats) are secure and can't be blown away by rotor wash.

6. Be sure baggage compartment doors are COMPLETELY closed

EXIT TOWARD FRONT

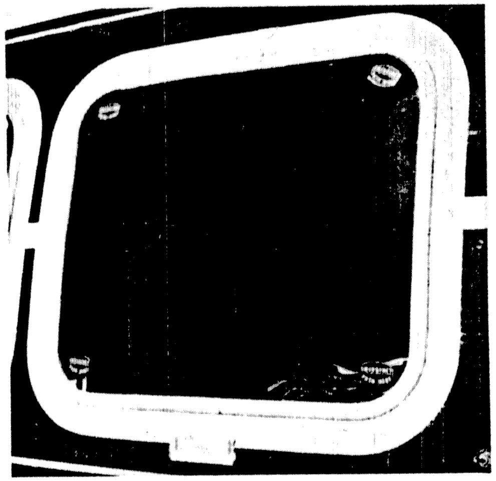
WHERE PILOT CAN SEE YOU

AVOID TAIL ROTOR!

BAGGAGE COMPARTMENT

To OPEN DOOR, rotate handle and swing door outward.

To CLOSE DOOR, shut door and rotate handle upward to the horizontal position.



EMERGENCY EXITS:

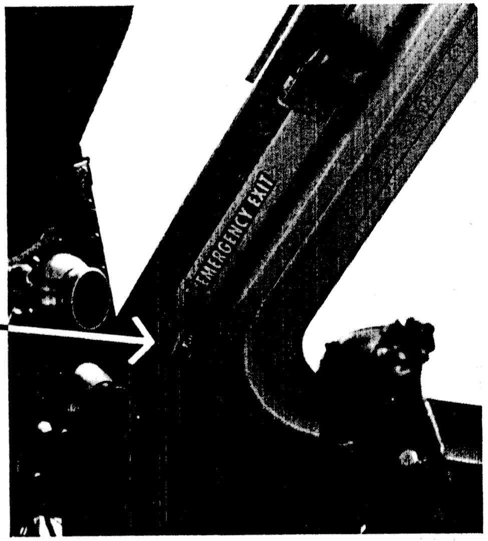
1. SLIDING DOOR WINDOW

Only 15 pounds pressure on any corner will pop the window out.

DO NOT LEAN AGAINST WINDOW WHILE IN FLIGHT!

2. LEFT FRONT DOOR

Pull red T handle to jettison door.



Era Helicopters

Era Aviation, Inc.

PO Box 6550 Lake Charles, LA (318) 478-6131

***Bell 412.** The 412 is a four rotor blade, twin-engine version of the world's most proven passenger helicopter. This IFR, radar-equipped helicopter will transport up to 13 passengers at 140+ mph in smooth, quiet comfort and retain the excellent reliability and cargo flexibility of the Bell 212.*

PASSENGER BRIEFING CARD

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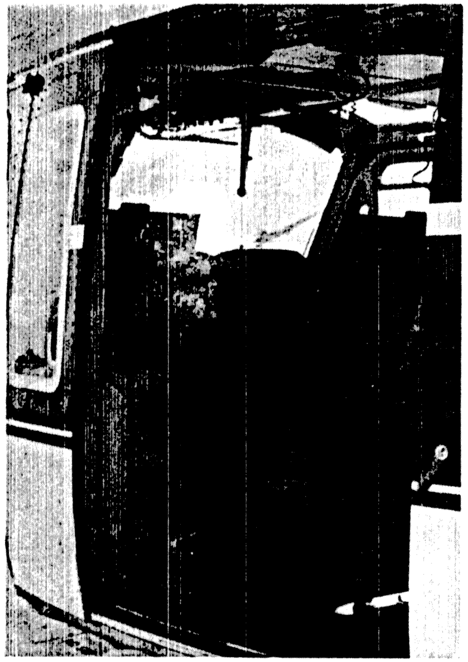
6. Be sure baggage compartment doors are COMPLETELY closed

EXIT TOWARD FRONT

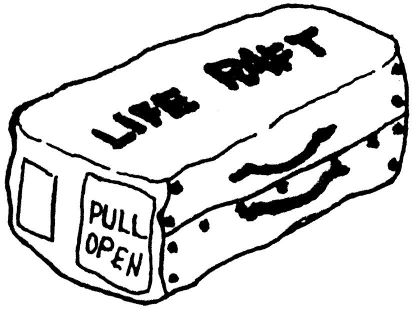
WHERE PILOT CAN SEE YOU

AVOID TAIL ROTOR!



LIFE RAFTS

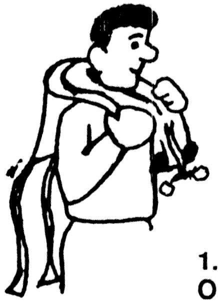
1. Inside cabin on left side beam next to the forward facing seats.
2. Under center of rear row of seats.



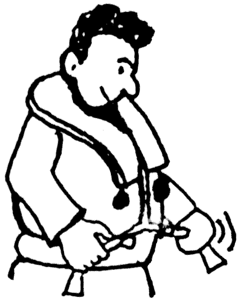
TO INFLATE RAFT:

1. Remove from helicopter.
2. Pull lanyard to inflate.

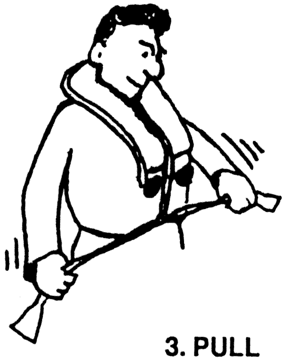
INFLATABLE LIFE JACKET



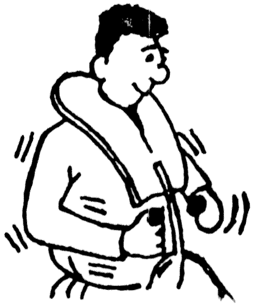
1. PUT ON OVER HEAD.



2. FASTEN HOOKS.



3. PULL TIGHT AROUND WAIST.



5. TO INFLATE JERK RED GAS RELEASE TABS.

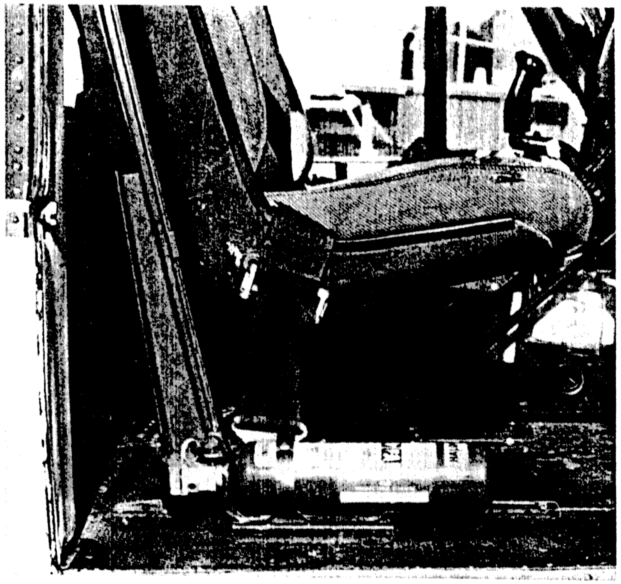
5. TO ORALLY IN-FLATE: BLOW

6. TO LOOSEN BELT, SQUEEZE BUCKLES.

FIRE EXTINGUISHERS

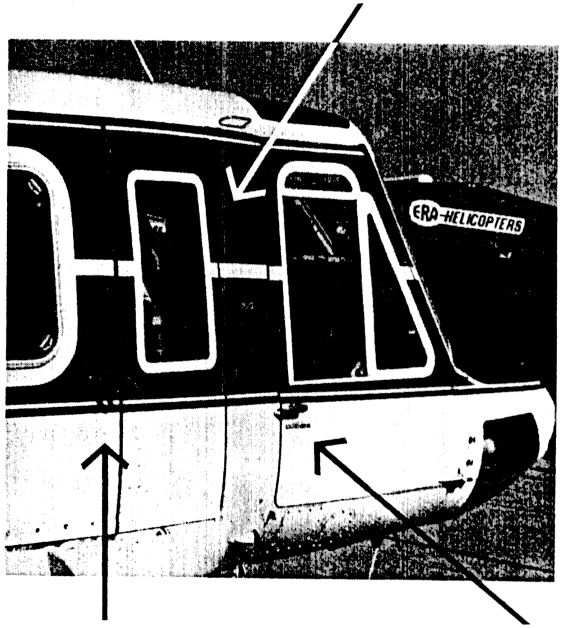
1. INSIDE RIGHT PILOT'S DOOR ON FLOOR
2. BEHIND LEFT PILOT'S SEAT ON BULKHEAD

DO NOT USE UNLESS DIRECTED TO BY CREW.



EMERGENCY LOCATOR BEACON

LOCATED INSIDE RIGHT DOOR POST



EMERGENCY SIGNAL KIT

LOCATED
INSIDE RIGHT
PILOT'S DOOR

PASSENGER DOOR

TO OPEN: Rotate door handle downward. Slide door to rear.

TO CLOSE: Slide door forward. Rotate handle forward to the

CREW DOOR

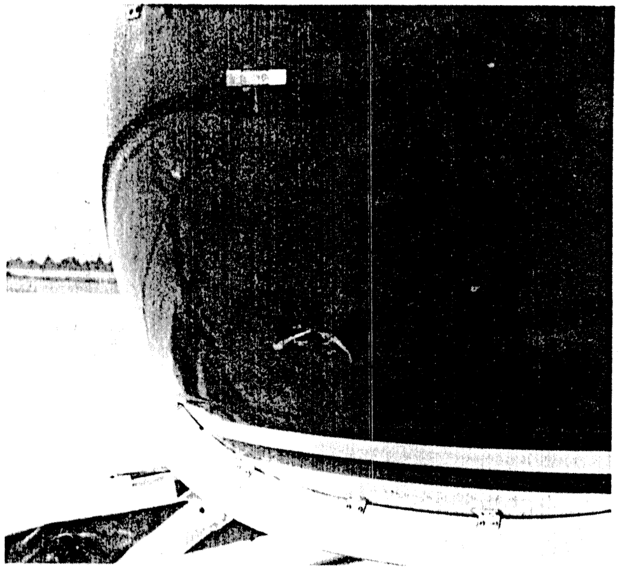
TO OPEN: Rotate door handle downward. Swing door outward.

TO CLOSE: Close door and rotate handle rearward to the hori-

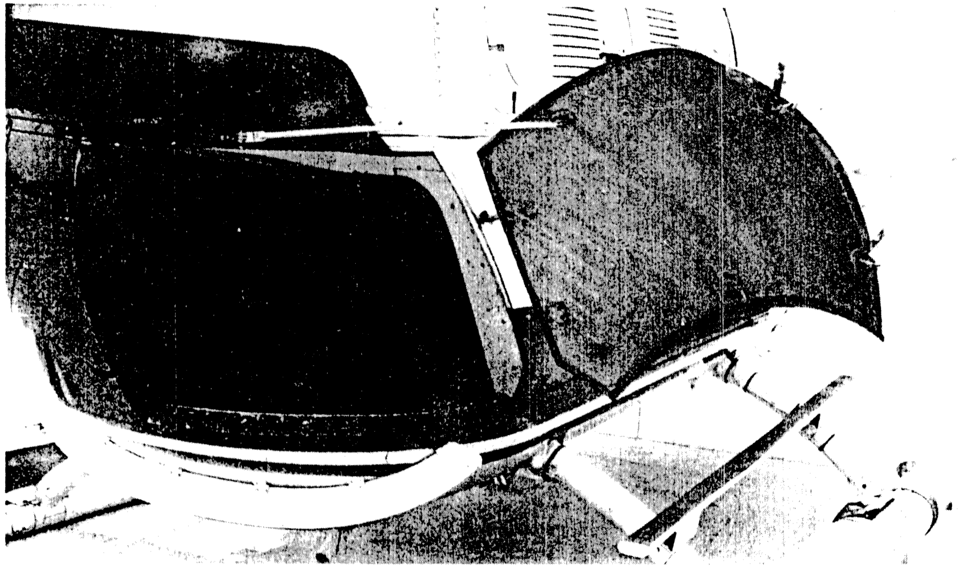
BAGGAGE DOORS

TO OPEN: Open bottom latch first. Open top latch.

TO CLOSE: Close bottom latch first. Close top latch.



CAUTION! BEWARE OF TAIL ROTOR



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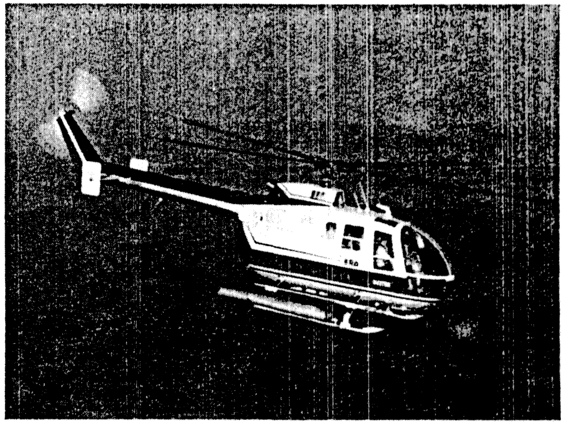

B0-105CBS. MBB's Twin Jet II helicopter is the backbone of Era's fleet. This five-passenger light twin engine helicopter cruises at 130 mph and can handle bulky outside cargo easily. Era is the single largest commercial operator of the BO105-CBS worldwide.

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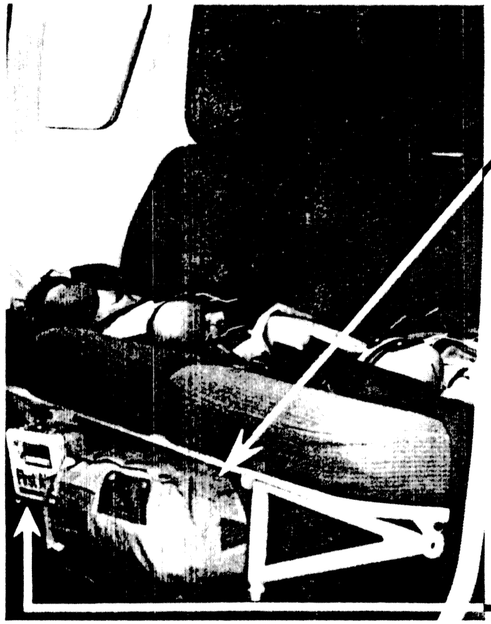
6. Be sure baggage compartment doors are COMPLETELY closed

EXIT TOWARD FRONT

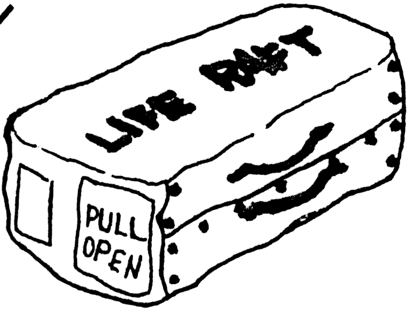
WHERE PILOT CAN SEE YOU

AVOID TAIL ROTOR!



LIFE RAFT

The life raft is located under the rear seat.

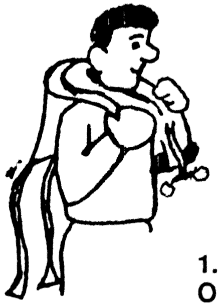


TO INFLATE RAFT:

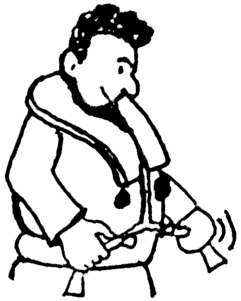
1. Remove from helicopter.
2. Pull handle under snap flap.

FIRST AID KIT

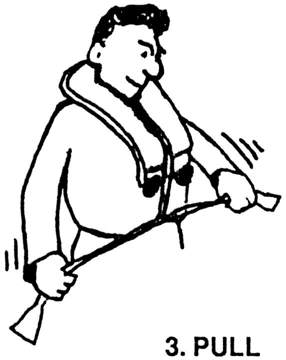
INFLATABLE LIFE JACKET



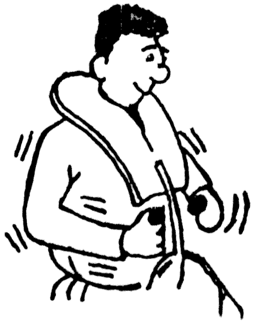
1. PUT ON OVER HEAD.



2. FASTEN HOOKS.



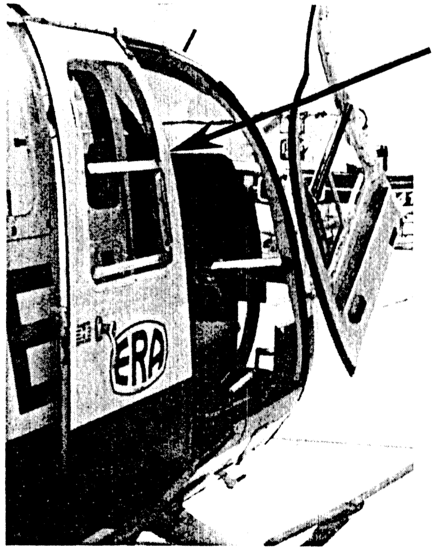
3. PULL TIGHT AROUND WAIST.



5. TO INFLATE JERK RED GAS RELEASE TABS.

5. TO ORALLY INFLATE: BLOW INTO RED TUBES.

6. TO LOOSEN BELT, SQUEEZE BUCKLES.

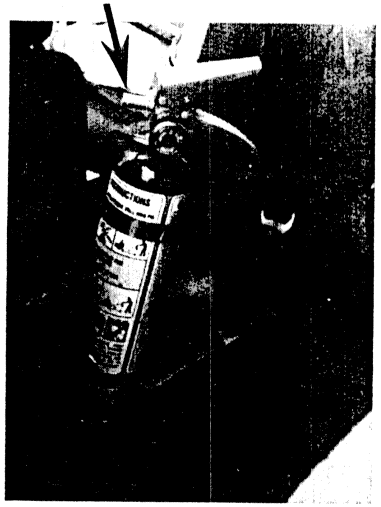


FRONT DOOR

TO OPEN: ***(from outside)*** Turn handle downward. Open door.
TO CLOSE: Shut door. Return handle to horizontal.

TO OPEN: ***(from inside)*** Pull up on handle. Push out on door.
TO CLOSE: Shut door. Push down on handle.

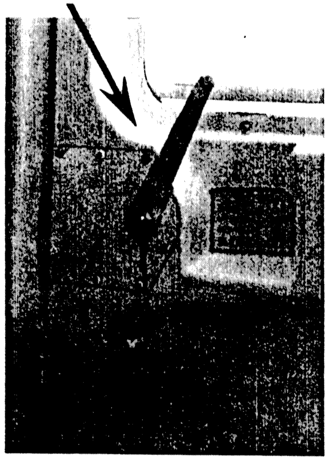
FIRE EXTINGUISHER



SLIDING REAR DOOR

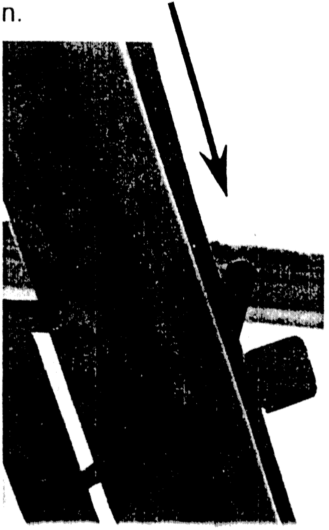
TO OPEN: ***(from outside)*** Turn handle downward. Pull door out 2", slide door aft.
TO CLOSE: Pull door forward and push toward cabin. Turn handle upward to horizontal.

TO OPEN: ***(from inside)*** Pull lever up. Push door out 2" and slide door aft.
TO CLOSE: Pull door forward and pull toward cabin. Push lever down horizontal.

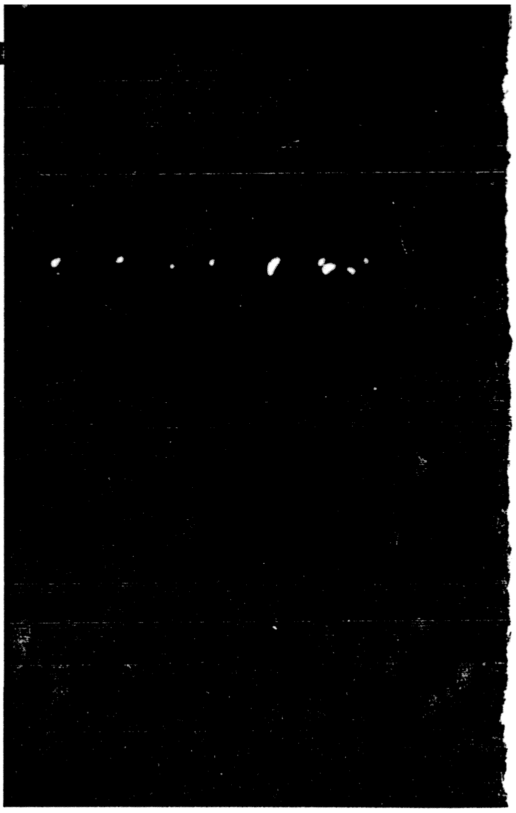


FRONT DOOR JETTISON

Located on front door post. Pull up on door handle. Push jettison handle down.



KUWAIT: The mother of all blowouts



Iraq's parting gesture to Kuwait—blowing wellheads off most of the latter's producing wells—is the biggest well control challenge ever. Danger from military ordnance compounds that from the fires

WITH MORE THAN 500 wells blowing out and on fire in Kuwaiti oil fields, some of which may be producing up to 60,000 bpd, the world's comparatively tiny oil well blowout control fraternity faces its biggest—and obviously longest—job ever. Estimates based on very incomplete data at this writing indicate from 12 to 18 months may be required to control the situation.

The task is compounded for a variety of reasons:

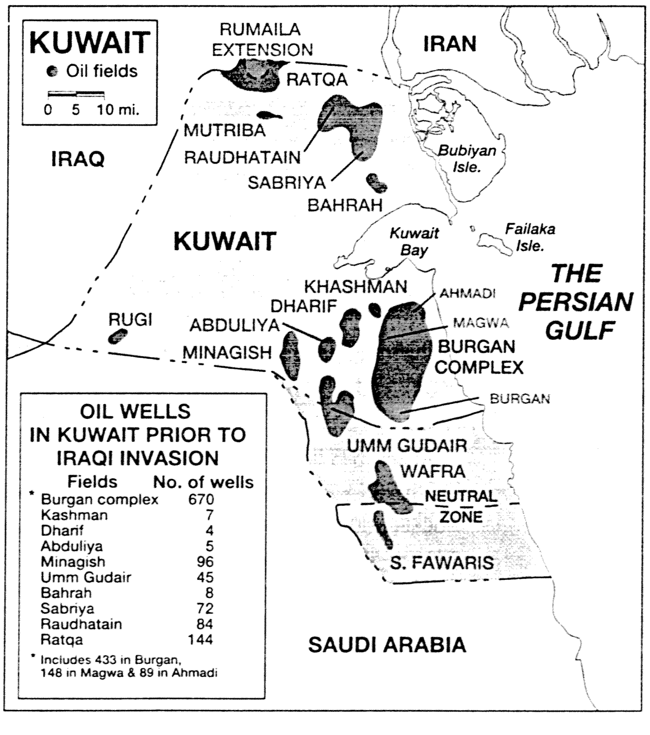
- Monumental logistical and communication problems in getting the necessary firefighting, blowout control, construction and replacement oil field equipment of all types to the area from around the world and arranging living accommodations for the work force.
- Minimal understanding on the part of some government echelons about the complexity and magnitude of the wild well problem and the myriad of things that must be done to bring them under control. One example has been Saudi customs officials holding up entry of sorely needed equipment being sent from Saudi Arabia.
- The Iraqi devastation of the country's infrastructure, leading to communications, transportation, electrical supply and water supply problems.
- Similar devastation of Kuwait Oil Co.'s (KOC) operating infrastructure. It is thought that most wells can be capped by conventional blowout control methods. But most well records, maps, etc. were also destroyed, except for those that KOC personnel were able to hide. Some duplicate well data may be available from drilling and service companies who previously worked in the country. This will mean "blind" well killing operations for recordless wells and more complications if relief holes have to be drilled.
- Land mines, cluster bombs and other explosive ordnance are scattered throughout the oil fields where blowouts are occurring.
- Lack of readily available high-volume water sources necessary for firefighting throughout the blowout areas.

Obviously, there's never been anything like this before as indicated by the accompanying photos. All photos in this article were provided by Larry Flak, blowout control coordinator for OGE Drilling-Kuwait, Inc. of Houston, who is coordinating the blowout control companies' effort.

The following describes status of the well control effort as of late March.

BACKGROUND

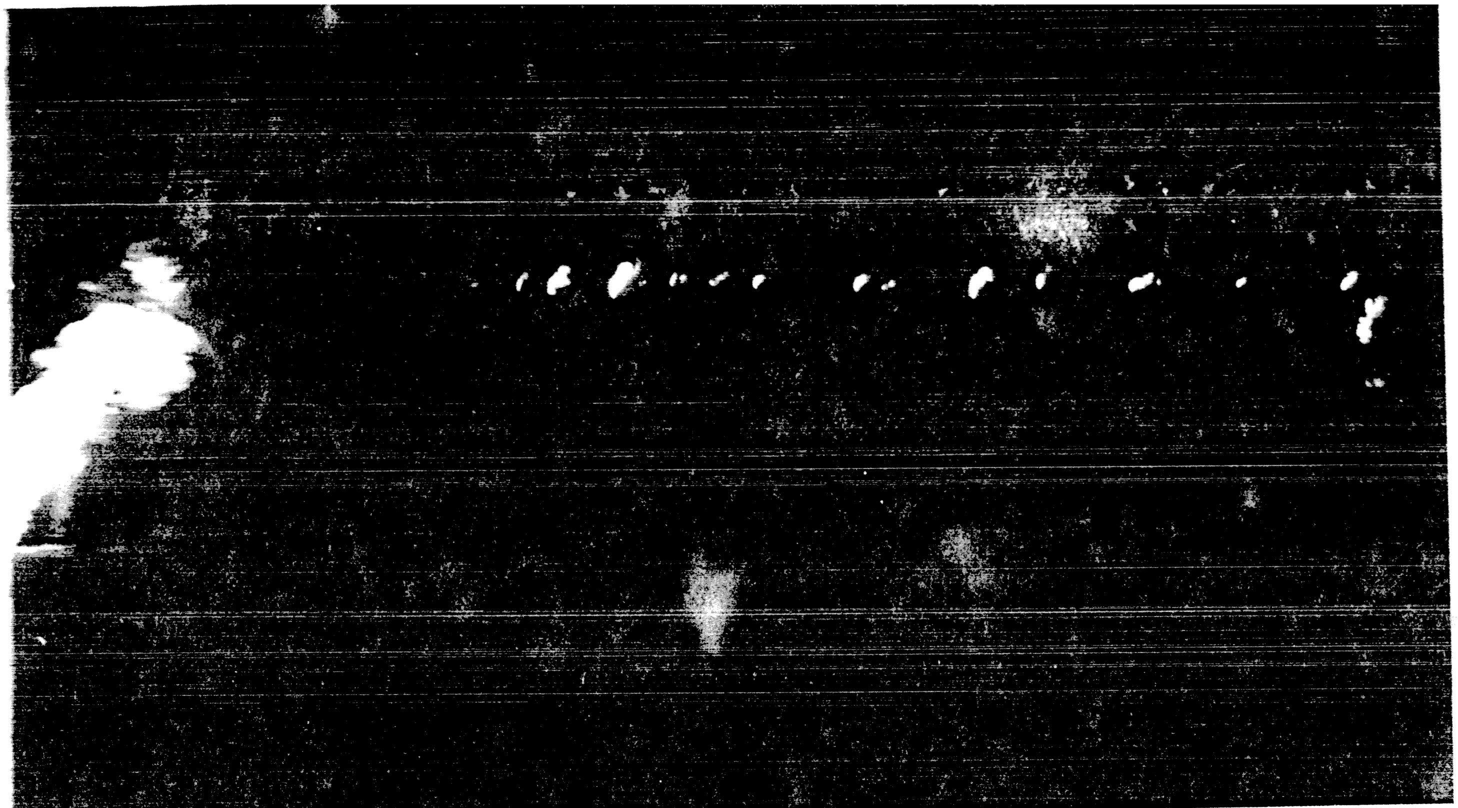
In terms of reserves, Kuwait ranks third in the world after Saudi Arabia and Iraq, with some 96 billion bbl. The Burgan producing complex, composed of Burgan, Ahmadi and Magwa fields (see map), contains the majority of those reserves, and is the second largest oil accumulation ever found after Ghawar in Saudi Arabia. The reserves total does not include South Umm Gudair field, Wafra or South Fawaris which lie in the Divided Neutral Zone that is jointly



OIL WELLS IN KUWAIT PRIOR TO IRAQI INVASION

Fields	No. of wells
* Burgan complex	670
Kashman	7
Dharif	4
Abduliya	5
Minagish	96
Umm Gudair	45
Bahrah	8
Sabriya	72
Raudhatain	84
Ratqa	144

* Includes 433 in Burgan, 148 in Magwa & 89 in Ahmadi



Day is turned into night by smoke in this spectacular panoramic view of some 35 blowouts. From one point in the Burgan complex, no less than 120 such fires are visible.

Blowout control experts on the scene in mid-March. Group photo shows, left to right, Raymond Henry, Red Adair Co., Boots Hansen, Boots & Coots, Inc., and Joe Bowden, Sr., Wild Well Control, Inc. Larry Flak, blowout coordinator for OGE Drilling—Kuwait, Inc., is shown in second photo.

shared and administered by Kuwait and Saudi Arabia.

Prior to the war, all E&P operations in Kuwait were handled by Kuwait Oil Co., a unit of Kuwait Petroleum Corp. In turn, Kuwait Petroleum functioned under control of the Ministry of Oil, representing the government.

Based on Ministry of Oil reports to *World Oil* over the years, Kuwait had about 1,100 oil wells in 10 fields capable of production before the war began. Of these, 670 were in the Burgan complex area. Burgan sand wells range from 4,000 to 5,000 feet deep and are equipped with 7-in. casing and 3½-in. tubing. Some do not have packers. Shutin tubing pressure is about 600 psi. GOR about 500/1 and estimated open flow potential of wells ranges to 60,000 bpd or more in the heart of the field.

In recent years, a number of wells have been completed at 12,000 to 14,000 feet in the Marat formation below the Bergan sands. These are also 7-in. x 3½-in. completions, with 8,000 psi shutin tubing pressure, 5,000/1 GOR, 2 to 3% H_2S and a normal producing rate on choke of 5,000 bpd. Open hole potential of Marat wells is unknown, but is estimated at 20,000 bpd.

DESTRUCTION

As Iraqi troops retreated from Kuwait, plastic explosives were used to blow off wellheads on over 500 wells scattered throughout every field in Kuwait. Included was the southern extention of Iraq's Rumalia field that underlies the shallow Ratqa field, a heavy oil producing area where wells must be pumped (see map).

It has been very difficult to accurately inventory Kuwait well destruction due to smoke, inaccessibility of wells due to land mines, etc.

Wafra field wells in the Divided Neutral Zone, previously operated by Texaco's Getty Oil unit on behalf of Kuwait and Saudi Arabia, were also blown. However, none are known to be on fire. Fate of other Neutral Zone wells in the South Umm Gudair and South Fawaris fields is unknown. All Neutral Zone land wells are artificially lifted and will not flow sufficiently to present a major blowout problem.

As shown in the accompanying photos, the smoke layer overlying much of the Burgan area (where most wells are) turns daylight to dark—all photos were taken during daylight. From one point in the Burgan complex, no less than 120 burning wells can be seen.

It is known that 13 of the high pressure Marat wells were blown in Minagish field and an undetermined number in Burgan and other outlying fields. Marat wells present a special problem with their H_2S production. One well that was blowing out, but not on fire, was set alight to prevent H_2S accumulation. As a safety measure, plans call for setting other nonburning Marat blowouts on fire. The U.S. Air Force offered to drop 2,000-lb bombs to do the job, a suggestion politely refused. Other non-burning Burgan equipment, materials and supplies from the U.S. and other parts of the world.

The guest house in KOC's Ahmadi camp will accommodate the initial complement of expat workers. Each of the four blowout control companies is scheduled to send two crews to fight the blowouts, although this number may be expanded once infrastructure is rebuilt.

A common misconception is that blowout control specialists are primarily firefighters. Actually, their goal is to stop the flow of oil and gas and contain it within the well. Extinguishing fire is one part of the job.

Water to fight fires will be obtained from the Persian Gulf, the shoreline of which is only about three miles from the edge of the Bergan complex of fields. Work is underway to connect existing 30-in. and 24-in. oil and gas pipelines to convey water from the Gulf back to surface reservoirs in the oil fields. All of the Bergan complex lies within a 15-mile radius of the KOC oil loading terminal on the Gulf.

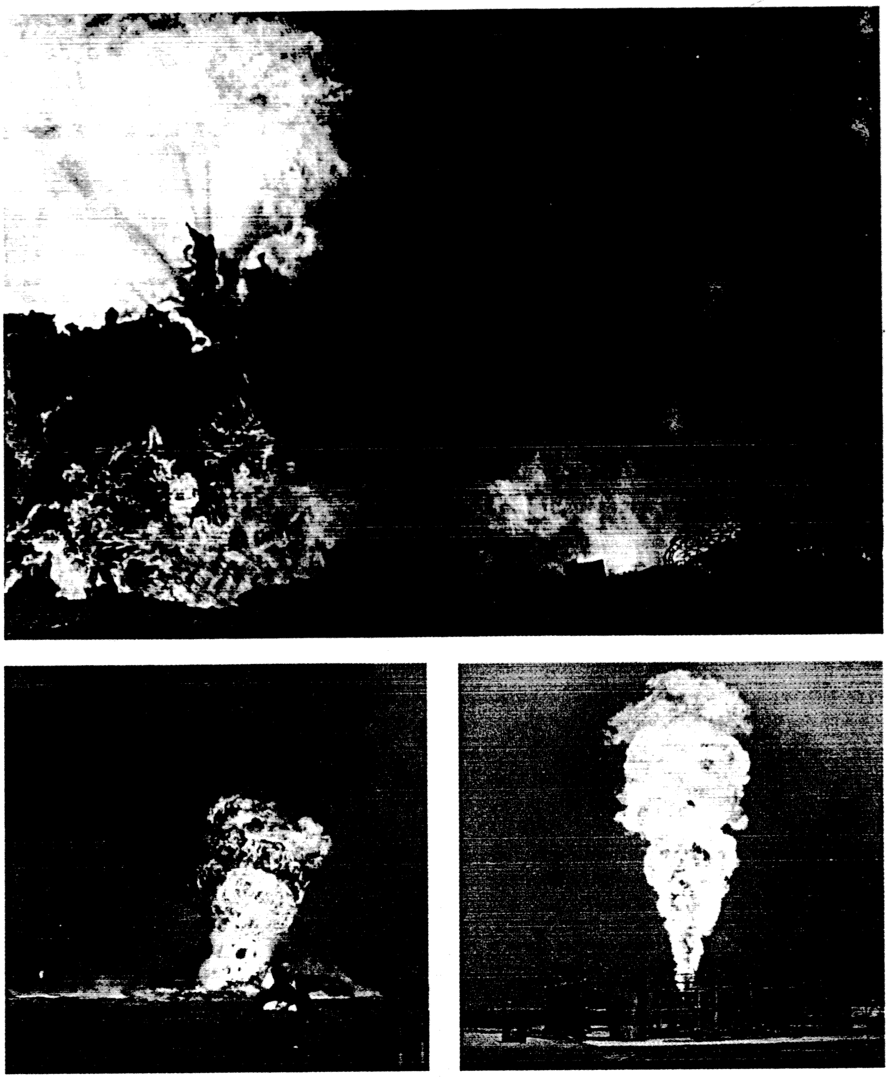
Another solution is to drill water wells where needed. Water can be tapped at a depth of about 750 ft in most parts of the country. A Saudi water well driller has been contracted for this work.

Fortunately, some lower productivity wells (see photos) may be capped without use of water. In addition, it is thought that most wells can be brought under control without the need for relief holes. If both of these premises hold true, this will shorten the job.

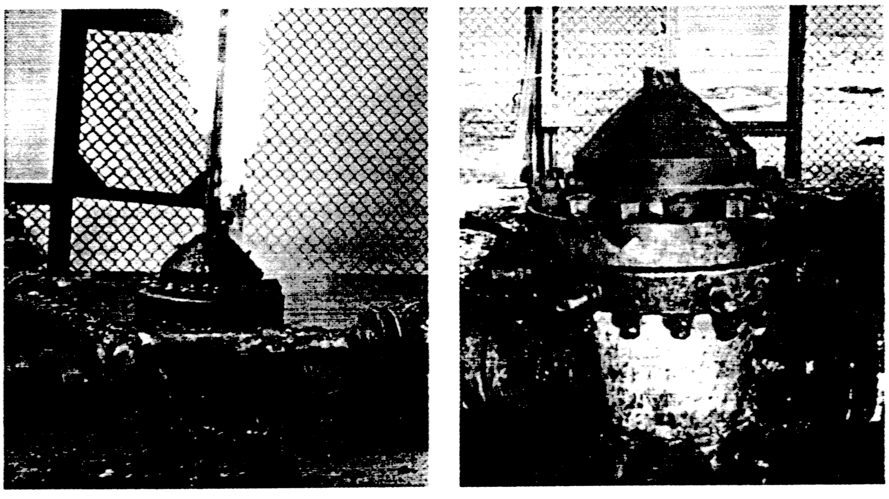
Land mines and other explosives scattered throughout the oil field areas also have been of much concern. It will be impossible to work on wells until all access has been cleared of such ordnance. It has been reported that both British and U.S. military mine-clearing details have been working to open roads and ensure that locations are free of explosives.

There also has been concern about reservoir damage due to the blowouts. As mentioned earlier, some wells are starting to produce water as indicated by steam accompanying the black smoke from well fires. This is a question that will only be answered after blowouts are capped and wells are back onstream.

Once wells are capped, drilling rigs, snubbers and workover rigs will be used to return wells to production status. Production startup will depend on when damaged gathering stations and major producing facilities can be repaired or rebuilt. ■



Largest fires may be 8,000 psi Marat oil wells or explosion may have blown off casing head of dual completed Burgan well. Many Burgan duals produce via tubing and casing annulus. Smaller fire is in typical well enclosure topped by concertina barbed wire—which didn't keep anybody out who wanted in.



In some cases, explosives were set to blow off the tubing head bonnet as shown here. Well not burning apparently was dead—or had rare downhole safety valve installed.

Capping blowouts from Iran's eight-year war

Part 1—Long before Kuwait, Iraqi soldiers were torching wellheads during the long war with Iran. Two years after the cease fire, Iran hired a Canadian firm to cap three wells burning near the Iraqi border. This first installment shows how two of the blowouts were snuffed

Bob Sayers, President, Red Flame Oil Well Fire Fighters, Red Deer, Alta., Canada

FIRES IN THREE Iranian wells (two oil, one gas), started during 1987 by Iraqi sabotage, finally were extinguished during the last several months of 1990. Burning during the final months of the countries' eight-year war, plus another subsequent peaceful two years, the fires consumed millions of barrels of oil and billions of cubic feet of gas before they were capped. Ironically, bringing the wells under control took relatively little time.

BACKGROUND

A cease-fire between Iran and Iraq went into effect Aug. 20, 1988. However, reaching a formal end to the conflict, which required both sides' acceptance of United Nations Security Council Resolution 598, dragged on for two more years. Security Council members in June 1988 passed Resolution 598 (which called for the cease-fire) with wording that Iran felt was too favorable to Iraq. Tehran balked accordingly, only to reverse course unexpectedly on July 17, 1988, and accept the resolution. Iran's turnaround allowed the cease-fire and peace talks to begin.

Then came an about-face by the Iraqis. Baghdad said it would not accept Resolution 598 unless the 1975 Algiers agreement setting the border demarcation in the middle of the Shatt al-'Arab (Iraq's only access to the sea) waterway was recognized by Iran as null and void. Iraq demanded full sovereignty over the Shatt al-'Arab, while Iran now became the unlikely, enthusiastic proponent of Resolution 598, insisting on full acceptance by Baghdad of all provisions.

Talks broke down, and a negotiating stalemate ensued. At the same time, Iraq continued to occupy small areas of Iranian territory, including Dehloran oil field (see map), west of the town of Dehloran in the western province of Ilam. The impasse finally was broken on Aug. 15, 1990, when Tehran made public a letter from Iraqi President Saddam Hussein, which offered to reactivate the 1975 Algiers agreement, withdraw troops from occupied Iranian territory and exchange prisoners of war. Coming just two weeks after Saddam invaded Kuwait, the move seemed an obvious attempt to open a loophole to circumvent UN economic sanctions.

Mindful of Baghdad's motives, Iran nonetheless agreed to the deal. Meanwhile, officials with National Iranian Oil Company (NIOC) apparently had been researching which oil well firefighting

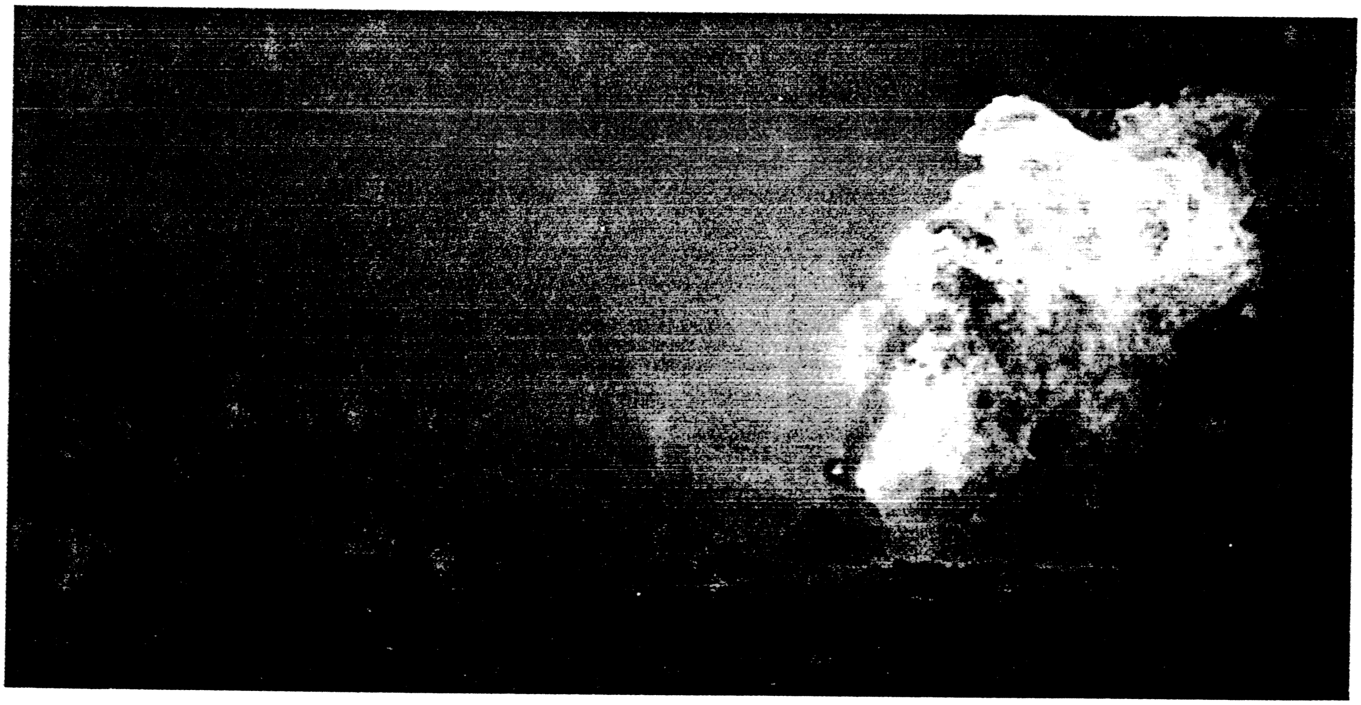


Fig. 1—A large hole in the middle of a valve body on Dehloran 3 allowed oil to spread around the wellhead, resulting in the tilted flame seen here.

firm it wanted to handle the three Dehloran blowouts. On the same day that the Iranian and Iraqi governments agreed to a formal peace, NIOC put in a call to the Canadian firm, Red Flame Oil Well Fire Fighters. Although Iraqi troops had begun withdrawing from the Dehloran border zone immediately, firefighters were delayed in deploying to the area for 10 days while the Iranian government swept the wellsites for mines.

Led by Red Flame President Bob Sayers, the firefighting crew subsequently flew into Ahwaz, Iran, the largest city reasonably close (193 mi) to Dehloran's wells. After analyzing all three wellsites, none of which was more than 10 mi from the Iraqi border, a decision was made to proceed with snuffing Dehloran 3 before tackling the largest of the blazes at Dehloran 5.

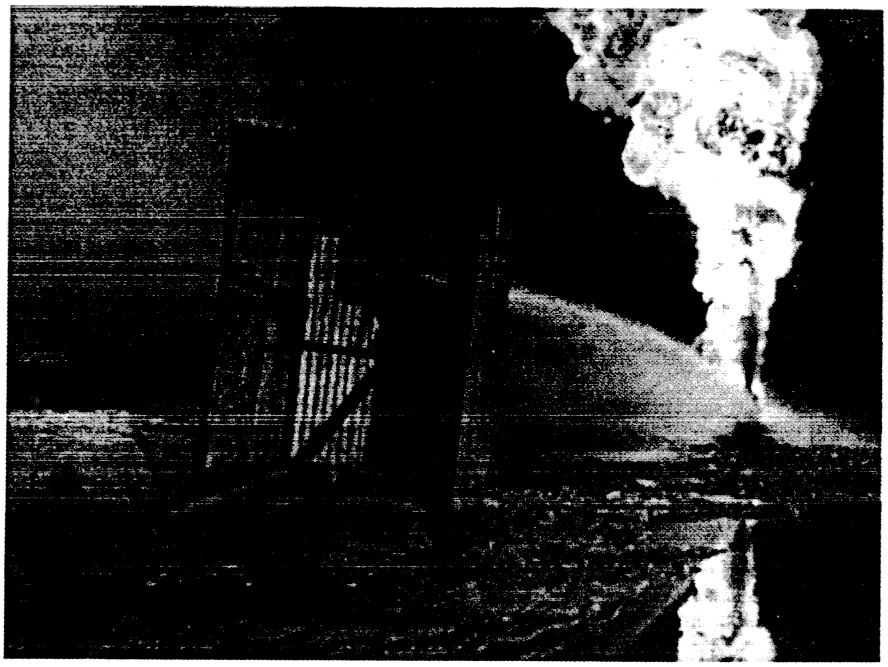


Fig. 2—During the cooling process, a two-and-a-half-year accumulation of charcoal and crusted oil was blown off the wellhead.

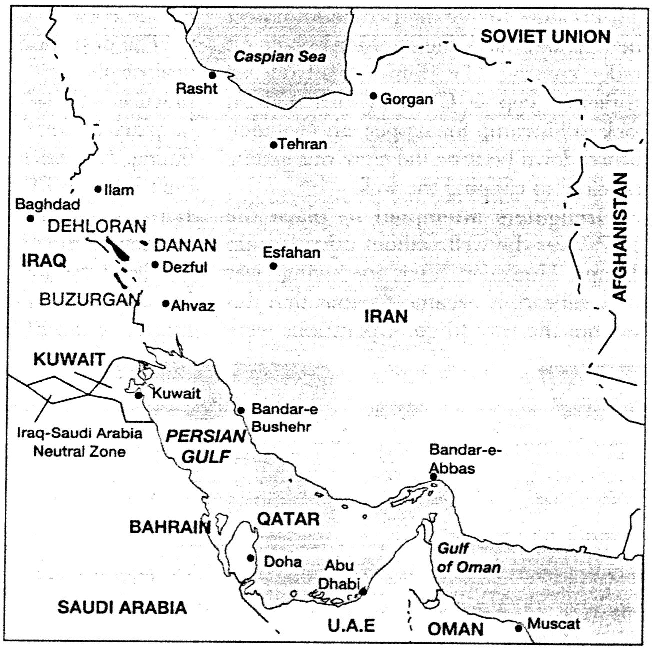
CONTROLLING DEHLORAN 3

Upon inspecting this first well, crew members knew they had to cut off the top of the wellhead in order to route the flow of oil and gas straight up. As can be seen in Fig. 1, there was a large hole in the middle of the valve body that let the oil come out all around the wellhead.

The crew traveled from the wellsite all the way back to Ahwaz in order to make up the equipment that would be needed to cap the well. This totaled about 35 truckloads of equipment, including an Athey Wagon; 13⅝ -in., 5,000-lb BOPs; flare stacks; welding torches; heat shields; and a new jet gun; along with four pumper trucks. In the meantime, Iranian officials ran an 18-mi pipeline to the wellsite and built a 4-MMgal reservoir for the water supply. A pipeline to the wellhead also was built, as was a manifold to which portable monitors were hooked up.

After all the heat shields were prepared, the equipment was trucked back to the wellsite, where it was put together with the Athey Wagon. The crew then began cooling down the Dehloran 3 well, which was the *smallest* of the three blowouts at 15,000 bopd (the author's estimate). During the cooling process (see Fig. 2), large piles of charcoal and crusted oil that had built up around the wellhead for two-and-a-half years were blown off. Workers then moved the heat shields in a little closer. A new abrasive jet gun was mounted in one heat shield with its nozzle sticking out. A bulldozer pushed this heat shield closer to the wellhead in order to get the jet gun near the body of the broken valve. Operated with 6,500 lb of pressure, the jet gun enabled firefighters to cut off the broken wellhead.

In an interesting side note, the Iranian army notified crew members before work began on the wellhead that they would have to walk to the other side of a hill. They were told to wait there for a few minutes, because soldiers had found one of Saddam Hussein's infamous land mines planted by Iraqi troops that had occupied the area. Firefighters eventually waited about 30 min. before the mine was blown up, sending dust flying over the hill. In a further dramatic gesture, an Iranian sergeant presented the crew with two pieces of the mine that had been blown up.



After the well flow began going straight up, firefighters backed a flare stack over the top of the wellhead, which brought the flare another 25 ft up into the air (see Fig. 3). This allowed work to proceed on the wellhead under the spray of water. After cutting off all bolts on the broken flange, workers were able to lift off the flare stack and broken flange. The actual lifting operation was performed using the Athey Wagon's boom so as to prevent injury to the crew if the broken flange flew off the wellhead (which is exactly what happened). With the wellhead now clean, the next step was to install BOPs to cap the well.

Just after moving the Athey Wagon, crew members were startled to see five

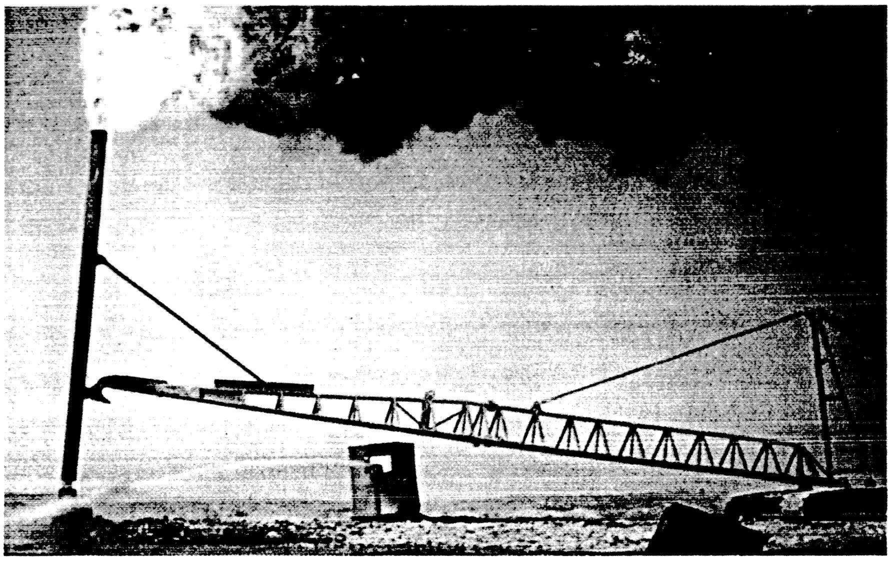


Fig. 3—In this view, firefighters had placed a flare stack over the top of the wellhead, routing the flames 25 ft higher so that workers could cut bolts off the broken flange.

army jeeps driving toward the wellsite. Rather than warning of some possible military action, the local army district head and his aides merely had come to inspect the well and thank the crew for bringing it under control. The district head offered workers a cup of Chi and invited them back to his camp for supper, an invitation turned down because the crew was getting too close to capping the well.

Firefighters attempted to place the BOPs over the well without using line-up clamps. However, after one swing over the wellhead, it became obvious that this was not the way to go. Operations were stopped until line-up pins and a clamp were installed on the BOP spool (Fig. 4). Nonetheless, there was a lot of pressure on the crew to cap the well that night.

The next morning, the crane operator, against his own inclination, was asked to practice making sure that the BOPs could be placed over the wellhead with precise timing. A water injection system had been built into the BOPs to keep the complete system cool as it was lowered over the wellhead and completely immersed in the middle of the fire. This was done by inserting an 11-in. inner flare stack down the middle of the BOPs.

After all was ready, BOPs were lowered through the raging blowout and down onto the wellhead (see Fig. 5). In this case, the clamp and line-up pins worked to perfection. Firefighters hurried along, putting bolts in, tightening the BOPs to the wellhead and hooking up an accumulator (hydraulic valve system) that was operated from 400 to 500 ft away. Following this, a mud kill line was installed to the BOPs.

Two major operations were left. First, the pipe rams had to be released and the inner flare stack (cooling the BOPs) pulled out. Next, pump trucks were started, and mud was pumped down the kill line. As soon as mud was seen coming out of the flare stack, the blind rams were closed and the blowout was shut in. Pumping rates and flow were increased gradually to a comfortable level. Within 35 min, the well was capped successfully and completely dead. A plug was put in the well to allow a change-out of equipment and the instalation of a new wellhead and tree (see Fig. 6). The entire process to cap the well, thus, took only three days.

The firefighting crew packed up and flew back to Canada for a short rest while waiting for equipment to be moved about 15 mi to the next wellsite (Dehloran 5). A new water supply of about 4 MMgal also was stored in a sump nearby. In true tradition, local Iranian citizens went out to the Dehloran 3 wellsite after the capping process was over. They cel-

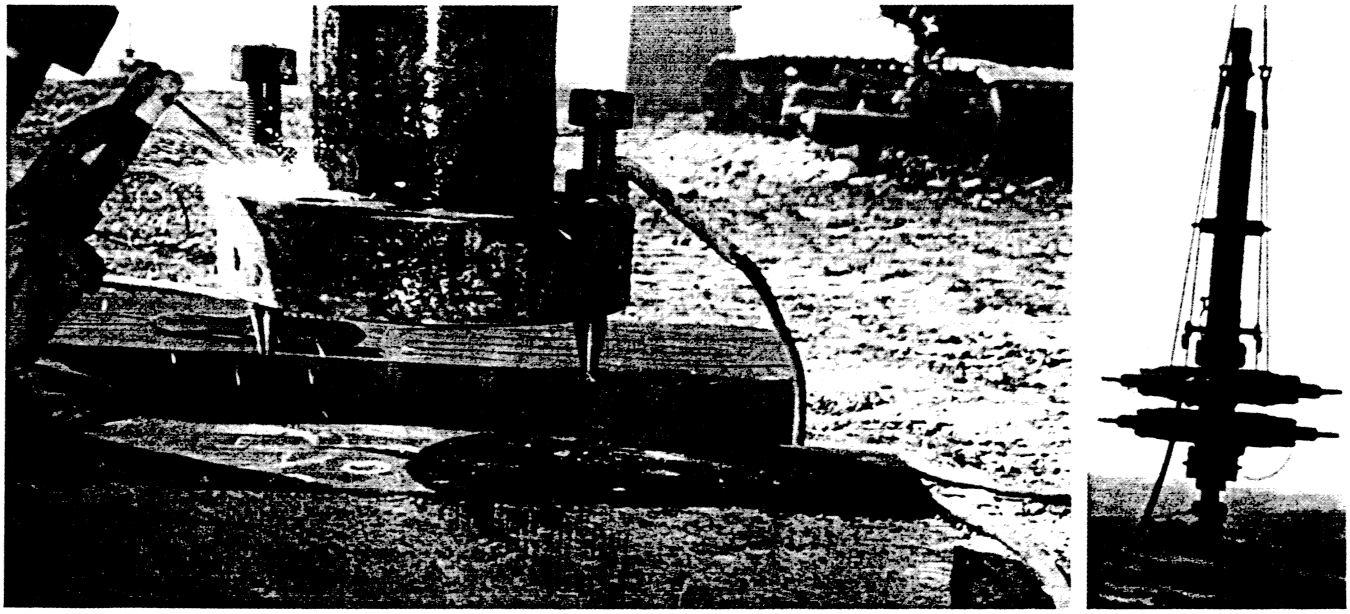


Fig. 4—After one abortive attempt to place the BOPs, line-up pins and a clamp were installed on the stack to facilitate its connection to the portion of the wellhead which remained.

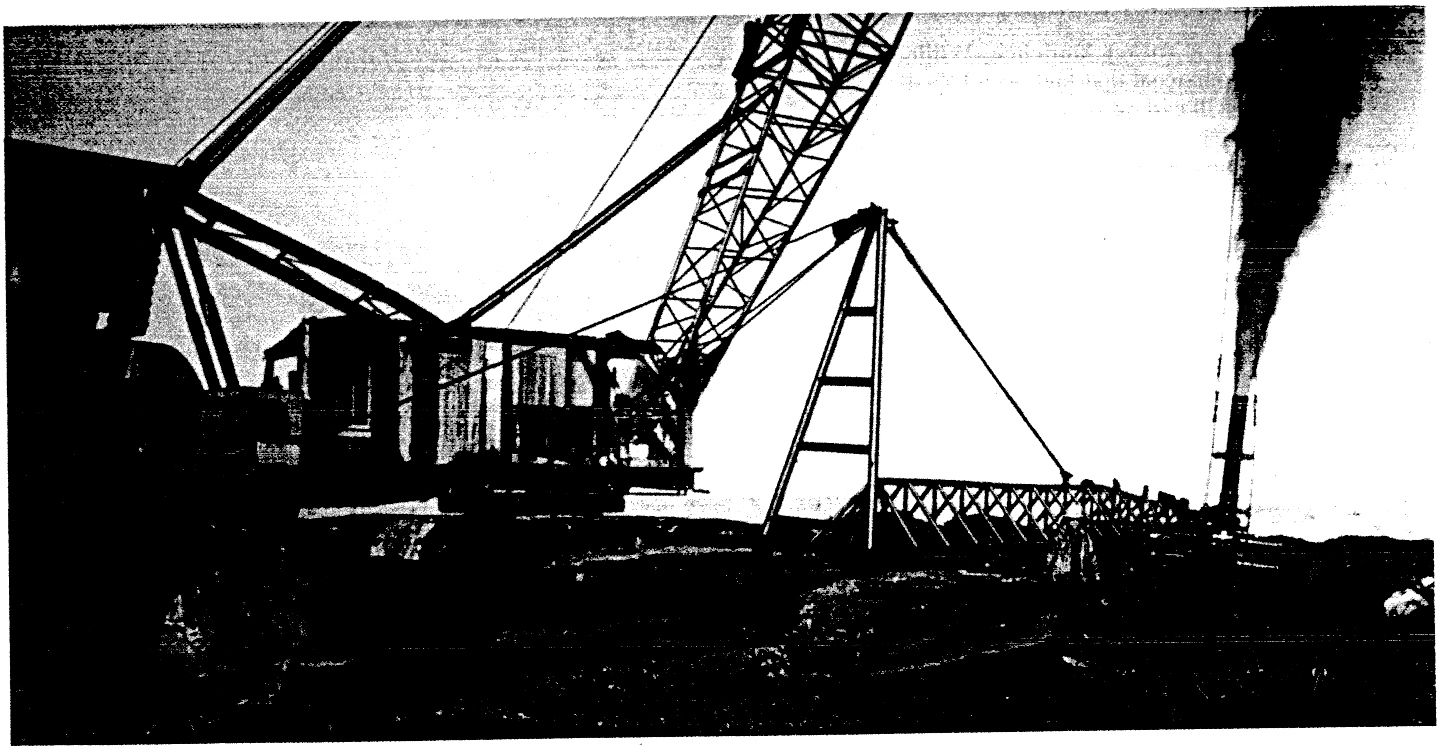


Fig. 5—With placement of the BOP stack complete, a remotely operated accumulator was hooked up, followed by installation of a mud kill line.

ebrated the success by sacrificing a sheep and drinking Chi.

SNUFFING DEHLORAN 4

After returning from Canada, the firefighters began the task of controlling what is believed to be the largest wildcat blowout in the world, Dehloran 5. That major process took place in late October and early November 1990, and will be described separately, later.

Following Dehloran 5, crew members shifted their attention to the third and final blowout in the field, Dehloran 4. This well is believed to be one of the largest gas blowouts ever tackled worldwide (see Fig. 7). The author estimated that the well was burning up over 178 MMcfgd and about 10,000 bcpd.

When workers first saw Dehloran 4, the blaze was so hot that no one could get within a quarter-mile of the well. It sat in a hollow about 500 ft deep and a quarter-mile in width. The temperature away from the fire that day in August was about 124°F. The fire's enormity tempted the author at one point to dream of controlling it by building railway tracks on both sides and winching the BOP from a quarter-mile away.

A number of weeks later, after the experience of capping Dehloran Nos. 3 and 5, such grandiose thoughts faded, and this well was controlled in much the same manner as No. 3, with some slight differences. Cooling the well was started with eight portable monitors using over 9,800 gallons of water per min (gwm). Soon after, workers were able to go in under the water shield with a bulldozer and push away all the broken, melted scrap iron from around the well.

As the crew finally got to the wellhead, it was found that the Iraqis had laid such a strong explosive charge on the wellhead that the main control valves were blown off, cracking the flange under the main master valve. This flange was made of steel about 8 in. thick, so it must have taken one hell of a big charge to break it in three places. After surveying the considerable damage done to the wellhead, firefighters assembled a flare stack used on one of the previous blowouts and backed it over the well.

This routed the enormous flame straight into the air, enabling work to proceed under the water shield. Because Dehloran 4 produced a rather strong suction and updraft, crew members were forced to use air packs in order to work on the wellhead. During this time, firefighters were exposed to nature's own

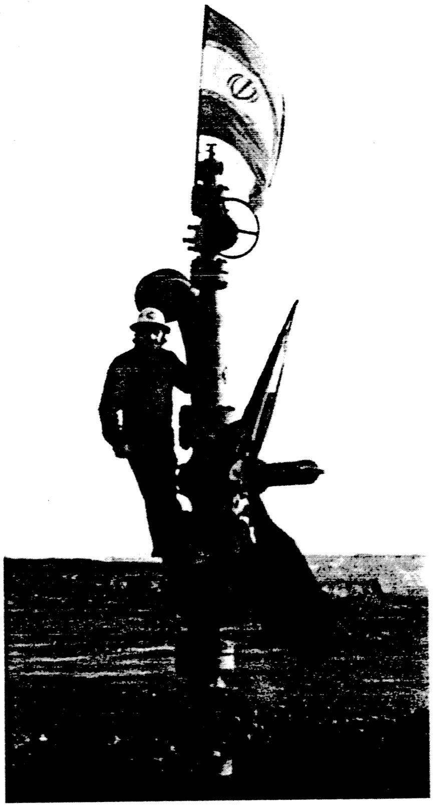


Fig. 6—The author's son, Rob Sayers, perches on the rehabilitated Dehloran 3 wellhead. The entire well control process, from extinguishing the blaze, to plugging the well, to changing out equipment and installing a new wellhead, took only three days.

version of a rocket launcher. While chunks of charcoal that had been baked on the wellhead were being chipped away, a piece the size of a cup flew up into the suction and through the flare stack. All sight of it was lost after it had blown about 600 to 700 ft in the air.

Once the wellhead was cleaned off, the crew decided to put the fire out. However, once the fire was out, workers were drenched by oil from the roughly 10,000 bbl being produced daily. That strategy was rethought, and the consensus was to relight the fire. After pulling back a considerable distance out of respect for the tremendous updraft, workers restarted the fire. Even at this point, the crew expected to cap the well within two full days. That was not to be the case, since they were surprised to find that the BOPs couldn't be lowered over the wellhead.

It seems as though the massive explosion had expanded the tubing hanger. This meant that the BOPs would have to be taken the nearly 200 mi to Ahwaz to be milled out. To appreciate the difficulty of this journey, imagine the bottom half of a 13⅝-in. BOP stack stuffed inside the back of a little Datsun pickup truck. All went well, however, and the BOP stack was returned to Dehloran in time the next morning to proceed.

In another side note, the premier of the province of Ilam had visited the wellsite to offer his thanks for bringing the blowouts under control. The premier brought with him a congratulatory letter and an NIOC flag as tokens of appreciation. That same night, the author's son, a crew member, had become dehydrated from the heat and food. An NIOC doctor and an army physician managed to bring him back to normal overnight through use of four shots, intravenous solutions and some pills. A testimonial to Iranian ingenuity was the doctors' intravenous stand: a piece of scrap metal, some electrical conduit and a strand of No. 9 wire stuck through the top.

With the night's problems overcome, the capping process continued. However, because firefighters were hurrying the job to take advantage of wind conditions, the accumulator unit was rolled over. Workers then had to take a bulldozer and winch the device from the side, eventually uprighting it and skidding it to the well. As per the Dehloran 3, BOPs were set in place and capping was accomplished in short order.

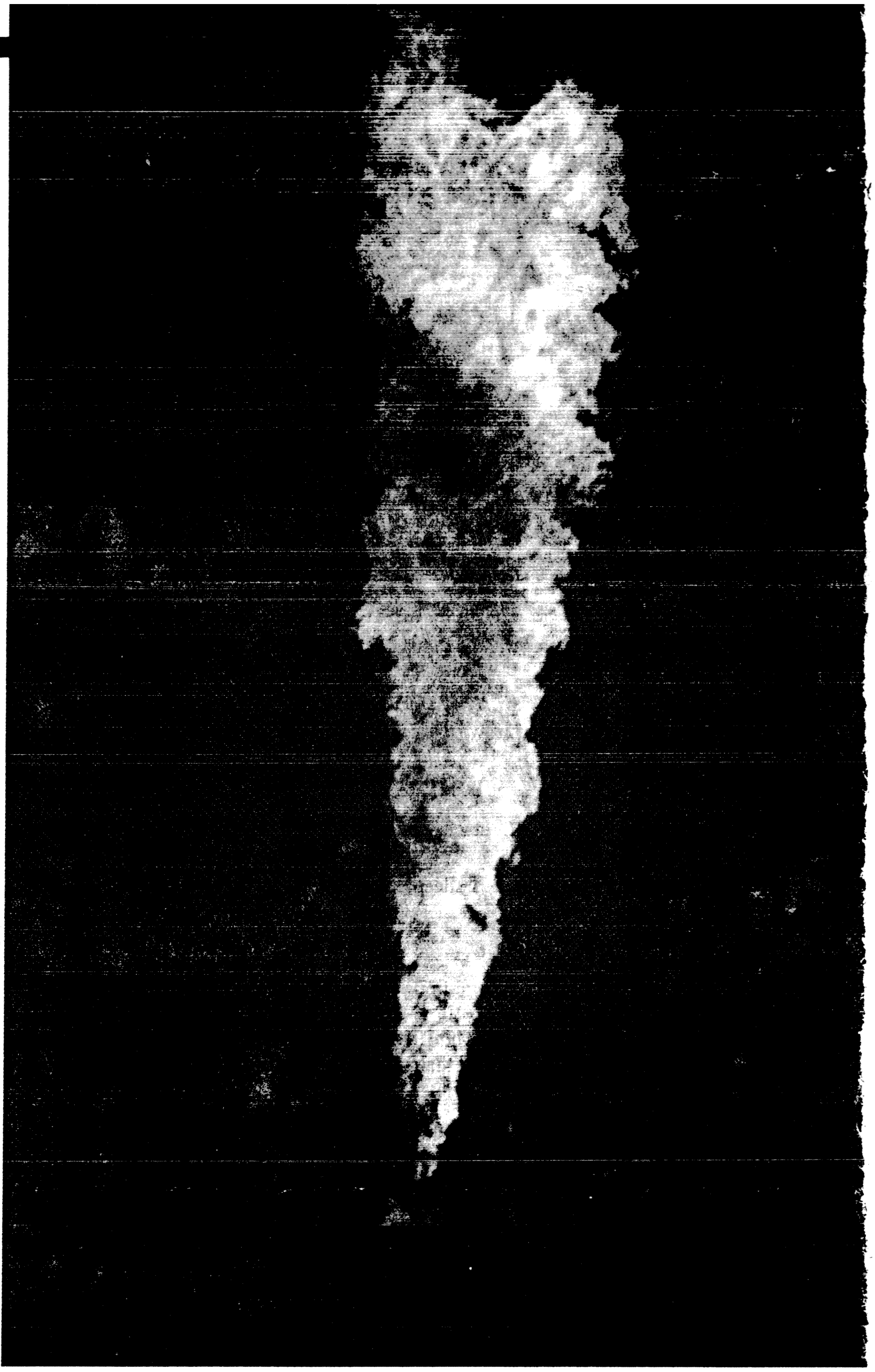


Fig. 7—One of the world's largest gas well fires at over 178 MMcfgd, Dehloran 3 is seen blazing away during the initial part of the cooling stage.

Learning from previous experience, crew members knew well enough to pack up and leave the site before the next celebration began. Later reports back to camp that local citizens had sacrificed three sheep during the festivities seemed somewhat dubious. However, when firefighters travelled from camp to the helicopter that would begin their journey back to Canada, all doubt was laid to rest. It seems as though the same car that hauled the sheep out to the wellsite also was used to transport crew members to the chopper. Enough said.

The second half of this article will describe the process used to extinguish the mighty Dehloran 5 oil well fire, which burned up 35,000 bopd, plus large quantities of associated gas. ■

Circle 74 →

UNTITLED

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APA-TECH New Writer Introduction

The following character introduction is my first submission to APA-TECH. It was intended, at first, to be one of several character introductions in a story that would involve a nexus of characters from different times brought together, however the idea never panned out. When Audrey Helou asked if I was interested in contributing to this journal I decided that I would contribute this short story. The writing style is a little dense taken out of context, but it was supposed to be contrasted against less complex writing styles of the introductions of the less technically oriented characters in the story.

It was written as an extrapolation of the various 'cyberspace' writings of cyberpunk authors I have read (William Gibson, Walter Jon Williams and Daniel Keys Moran to name a few) and I wished to try my hand at writing something along those lines. The entire episode detailed takes place within the computerized sensory inducement of 'cyberspace'.

Over the last two years I have been combing bookstores, comic stores and hobby stores looking for anything I can find in the cyberpunk scifi genre. Recently I attended a symposium called "Beyond Cyberpunk" at the Detroit Institute of Arts. The book collection in the genre is only about two dozen titles, but all very visionary and very entertaining. In the role-playing game 'Cyberpunk' I run a character called 'Kernel NMI' an accomplished cyberspace hacker.

As for the demographics; I am 24 years old and live in Northville, Michigan. I work as a software engineer at a company called Intellivoice Communications. My degree is in Computer Science from Central Michigan University. Hobbies and interests include computer related anything, role-playing games, tactical wargames, tennis, reading science fiction and fantasy, computer bulletin boards and neat technical toys.

That should give you a baseline idea of who I am. I hope you enjoy my contribution; I'll look forward to reading all of yours.

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Chapter One

Anton Devries

Anton Devries floated in a grey void, a dull luminescent grid stretching into infinity far below him. Angled at 45 degree angles to the x,y and z axis before him, a short distance away, were bright white icons moving at a screaming velocity that exactly matched his. Anton perceived himself as another bright white icon to match. Thin, orange lines stretched out in front of him and the other icons tracing their trajectory across the graphical realm Anton viewed himself in.

Concentrating on the upper left icon, Anton saw it change and expand. Windows, hierarchal chart, histograms, mathematical relations and raw numbers came streaming into his conscious mind as he absorbed, analyzed and sorted data about that particular pilot.

Switching to his own icon, Anton scanned medical readouts on his own condition, performance reports on his star fighter, and readied tactical formation sequences keyed to perceived counter-attack formations and defenses he expected to encounter in the upcoming battle. Complex three dimensional maneuvers, attack and defense patterns, electronic countermeasures, communications and encryption protocols and contingency plans were all keyed in, indexed and ready to be called on upon a moments notice. All would be updated during the battle by the fighters resident AIs to reflect the most current situation at any time during the battle.

There were seven AI constructs on board the fighter, two of which had human interfaces to interact with human beings, the other five as alien as the enemy they were about to do battle with --all seven top of the line machine intelligence. Expense was no barrier for the United Terran Federations Tactical Fighter Squadrons. As the main line of defense for the Terran and outlying star systems, the TFS was equipped as best as the United Terran Federation could arm them. If the Hykerian aliens broke through the TFS line of defense, then planetary forces could not hope to stand up to the enemy star fighters.

Four hours ago the five fighters were dropped from a carrier ship that emerged from a wormhole transit controlled by UTN forces. The attack was planned four hours before that when a remote probe sent a distress signal upon discovering a similar Hykerian probe exploring the singularity discovered at the Anton's target site that could prove to be a stable wormhole. It was assumed that they Hykerian probe would have sent a similar signal. The mission was to destroy the enemy probe, and to insure the safety of their own probe. The potential wormhole was of great tactical importance, and Anton's team was dispatched both because they were the best of the several nearby teams. They would not return without completing their mission. They were less than an hour from the target zone, and expected Hykerian assistance within a half hour to and hour.

There were very few other objects of note in the graphical illusion that filled Anton's perceptions. Major star systems appeared as blurred blue spots; names, spectrographic analysis, wormhole routes, planetary information, and other data fringing upon his consciousness as his they star systems came into his awareness. While cranially jacked into the AI network Anton perceived nothing but the cyberspace continuum, and nearly any information he desired came into his consciousness. An entire AI construct was dedicated to simply supplying Anton information. Anton himself had a cerebral implanted computer giving him an approximately 10 minute full recall in full sensory detail, with several resident programs that helped Anton coordinate information. While in cyberspace the AIs gave him full sensory re-range Hunter-Killers to intercept the Hykerian missiles. The interceptors collided with their targets seconds before the two squadrons came within primary weapon range of each other. Several short range missiles from each of the ships launched at various targets against the enemy. Both teams shifted configurations on a second to second basis to counter the other teams attack. Anton's awareness was even further from reality than his cyberspace illusion. His conscious devoted completely to analysis, and lightning quick decision. Two Hykerian were hit before they could be rerouted by the Hykerian commander. A split second later, the icon representing Jason Basil flashed out of existence as he was hit by an enemy missile. A quick query to the events of the last half second showed Anton that he has misinterpreted the acceleration curve of Jason's ship and it had not the velocity to escape the missile that targeted him. As soon as he reached the conclusion, the new formula was inserted into all attack algorithms to compensate for the error. Anton had not even a half second to grieve, lest he lose the rest of the team. He would grieve later—his conscious mind not yet even aware of the loss.

Anton's mind was filled with an overload of information, as he sorted out what seemed at each second the most important information. Enough sensor analysis had come in for a reasonable accurate model of the enemy fighters, increasing the accuracy of his tactical algorithms. The fighter teams spun, twisted and cruised in complex attack patterns, dancing in attack and dodging in coordinated defense. Anton lost two fighters, the Hykerians another. Two against two, the algorithms had less complexity and permutations. Weapon supplies were dwindling on both sides. An unforseen mass driver cannon attack destroyed Anton's last team member. Anton had three missiles left, and several bursts of his mass driver cannon. He danced and twisted, outguessing his attackers patterns, the cyberspace orientation matrix twisting around him at fantastic speeds, and the icons of the Hykerian ships dogging him across space. They were a few thousand kilometers from the singularity now, the intense gravity warping space and taxing the dries to their maximums. Both probes were in his cyberspace awareness now. He launched two of the missiles at the enemy probe, and turned abruptly to his attackers with mass driver bursts. This had surprised the enemy squad leader, and Anton had destroyed the last of the enemy leaders team members. It was one on one. Anton has a single missile left. To the rear, the Hykerian probes icon flashed out of existence. Secondary mission goal achieved. The Hykerian squad leader had two missiles, no mass driver rounds. Both missiles launched. One targeted at him, one at the UTN probe. Primary missile objective; save the probe. No hesitation, Anton launched his last missile to intercept the missile targeted at the UTN probe. Three seconds to impact. Anton swerved to avoid the missile targeted at him. Data became available, the looming singularity warped the field of space, geometrically increasing the needed acceleration thrust, multiplying the acceleration curve beyond the capacity to avoid the enemy missile. Anton strained to push the fighter beyond spec limits, and achieved 115% at the cost of 75% of the backup systems, along with the primary system. The missile exploded three kilometers from the ship. Anton's ship suffered a major system failure. His life support system, and attached life buoy systems ejected from the ship near the singularity. The AI's were detached from his mind, and his awareness dwindled. He rushed out of control toward the singularity, the enemy ship following him in an unreasonable act of aggression desiring to finish Anton off. Anton queried to see if both were beyond the critical horizon, where return to normal space were impossible, but received no answer forgetting that his AI's were on the fighter. He saw the remains of his ship flash out of existence as the resident AI's decided to self destruct the planet cracker. As Anton passed the wormholes event horizon, he saw the encroaching shockwave engulf the Hykerian fighter. Whiteness, a strange gut feeling, then he was back in normal space. On the tail end of a wormhole leading to an unknown point somewhere in the universe. Medical alerts flashed in his cyberspace awareness, as it faded. The orientation grid dissolved, all icons disappeared and the grey of cyberspace faded. His cyberspace interface had failed. He tasted blood in his mouth. Then he passed out.

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call of all information Anton had ever experiences while in the fighter.

The fighter itself was hardly more than a few meters long. The cockpit was large enough only for Anton's life support module. The rest of the ship was solidly packed with several backed up levels of the various ships systems, all packed in the toughest shell mankind had ever developed. The engine was a hyperspatial shift engine, creating a warped space field around the ship that continually propelled the ship forward. The ship has zero thrust, yet was the fastest vehicle ever created by human beings. The Hykerian ships were slightly faster, which irked UTF ship designers to no end.

Among the armament were 24 short range AI Hunter-Killer drone missiles, 2 long range AI Stealth-Assassin drone missiles and one M3030 Mass Driver Cannon top-mounted on the fighter, firing 400 rounds per second. Anton was the only one of the five that carried the M0 Planet Cracker bomb --for use as a self destruction device rather than it's designed intent. If Anton could not complete his mission, then he would make sure the Hykerians would not either.

There were no defenses, save an entire AI devoted to electronic counter-measures and the intense tactical maneuvering that occurs during cyberspace star fighter battles. All of the weapons carried by both sides were more than capable of destroying the opposing fighters with a near-direct hit.

This was Anton's seventeenth active combat mission in the sixth month of his tour. His team had scored sixteen crushing victories and one tactical victory. The tactical victory had seen the loss of two of the original team members even though they had crushed the opposing Hykerians. This was the best record of all of the teams on active duty. In the three year history of the war, there were only 12 team with better records, and only four of them within their first six months. Anton let none of this go to his head, which was one of the biggest reasons for his teams success. Anton was the brain of the team, the other four pilots the limbs. In combat he was cool and calculating as the seven AI's that enhanced his brain. Many of the other teams were hotdogs, but many of the other teams were dead. Nonetheless, Anton's other teams members were hotdogs --but they followed orders as if they were Anton's arms themselves.

As young cadet Anton Devries, he was a star pupil among the creme of the crop. Only the brightest, quickest and best of humanity served in the TFS. Only the best of them were squadron leaders. Anton graduated with honors and was given an immediate command position, his choice of fellow cadets to serve with.

Five hot pink dots in a pentagon formation appeared far out across the cyberspace matrix. Probable attack trajectories streamed from them in shades of purple, the brighter the hue the more probable the attack. Anton shifted awareness to the dots themselves, ships sensors and analysis programs giving collecting information, embellishing the icons and adding to their complexities. Cross indexing to already collected Hykerian data, several hundred possible attack configurations were weeded out by the game algorithms and probability programs on the base information alone. Within a minute the several thousand attack/defense strategies were narrowed to less than three dozen. Anton reviewed these, and called on the Ai to supply him with his teams performance statistics while utilizing these patterns in actual and simulated battle. The choice was narrowed to the ten best. Anton chose one he was most comfortable with, and assigned the rest to counter their most effectiveness against the possible Hykerian response. As he decided, his thoughts were transferred though incredibly complex polyprotocal encrypted communications to his team members, as they arrayed themselves in the chosen attack pattern. They were 162 seconds to short range missile range. Within the first 93 seconds they Hykerians shifted their patterns 24 times. Anton countered each one with the same process employed in his first analysis. At the 93 second mark two of the enemy fighters launched long range drones, forcing a new set of computations as Anton reviewed the various permutations of attack patterns, wasting all of the pervious initial analysis done before.

Anton waited until the missiles were in short range and has one of his team members launch short